

# MILITARY COMMUNICATIONS - ELECTRONICS BOARD

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**FREQUENCY RESOURCE RECORD SYSTEM (FRRS)**

**STANDARD FREQUENCY ACTION FORMAT (SFAF)**

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WITH CHANGES 1 (1 DEC 1999) and 2 (30 NOV 2000)



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The following page changes are made to MCEB Pub 7 Dated 1 October 1998 with change 1 dated 1 December 1999:

Replace the cover page.

Replace page i through iv.

Replace pages 1 through 17.

Replace pages A-1 through A-10.

Add page A-10a/b.

Replace pages A-17 and A-18.

Replace pages A-21 and A-22.

Replace pages A-25 and A-26.

Replace pages A-49 through A-52.

Replace page A-73 and A-74.

Add pages A-74a and A-74b

Replace page A-79 through A-82.

Add page A-82a/b.

Replace page A-85 through A-92.

Replace pages A97 and A-98.

Replace pages A-C-3 and A-C-4.

Replace pages A-D-33 through A-D-35.

Replace pages A-F-1 through A-F-17

Add pages A-I-1 through A-I-23.

Replace pages B-1 through B-2.

Replace pages C-1 through C-3.

Replace pages D-1 through D-2.

FREQUENCY RESOURCE RECORD SYSTEM  
STANDARD FREQUENCY ACTION FORMAT  
FORWARD

**Purpose:** This document establishes the Frequency Resource Record System (FRRS) Standard Frequency Action Format (SFAF).

**Authority:** This document is issued under the authority of DoD Directive 5100.35, Military Communications-Electronics Board (MCEB) with changes thereto.

**Amendments and Review:** This document will be reviewed by the J-208B Working Group of the Frequency Panel (FP) every five years and amendments will be issued by the Military Secretary, MCEB, when appropriate. This document updates MCEB PUB 7 dated 1 October 1998 with change 1 dated 1 December 1999. Any suggested changes to MCEB Pub 7 can be forwarded to:

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See Appendix C

## RECORD OF CHANGES AND CORRECTIONS

Enter Change of Correction in Appropriate Column

[illegible]

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# STANDARD FORMATS FOR RADIO FREQUENCY PROPOSALS, ASSIGNMENTS, MODIFICATIONS, RENEWALS, REVIEWS, AND DELETIONS

## 1. GENERAL

a. **Purpose.** This document describes the Standard Frequency Action Format (SFAF) used for Department of Defense (DoD) radio frequency proposals, assignments, modifications, renewals, reviews, and deletions. Frequency assignment proposals for space or earth stations may be made in either the International Telecommunication Union (ITU) Appendix 3 format or the SFAF.

b. **Appendixes.** Appendix A contains a list of SFAF data items with their input requirements. Appendix B contains a list of acronyms used throughout the document. Appendix C contains the document Distribution List. Appendix D contains a summary of major changes from the previous MCEB PUB 7 dated 1 December 1998 as amended by Change 1 dated 1 December 1999.

c. **Definitions.** The following definitions apply to terms used in processing SFAF data into the Frequency Resource Record System's (FRRS) central database.

(1) **Frequency Assignment.** A frequency assignment is an authorization to operate, within prescribed parameters, electronic equipment that emit radio frequency (RF) energy. The authorization contains the assignment's technical parameters and administrative information.

(2) **Frequency Assignment Record.** A frequency assignment record is a grouping of data entries pertaining to an authorized frequency assignment stored within a database.

(3) **Frequency Assignment Transaction.** A frequency assignment transaction (also called a proposal) is a formatted grouping of data entries used to request a new assignment, an update, or a deletion of a frequency assignment. A transaction always starts with Data Item 005 (Security Classification) and ends with the highest numbered data item used for that transaction.

(4) **Message Part.** A message part may contain one or more frequency assignment transactions. Each message part begins with Data Item 005.

(5) **Data Item.** A data item is made up of a data item number, a data item security classification indicator (if required), and the data entry.

(6) **Data Item Number.** A data item number (also referred to as a data item identifier) is used to identify each data item in an SFAF frequency assignment transaction. It consists of a unique 3-digit number followed by a period and a space. For example, (005. ) is used to identify the record's security classification. Appendix A

contains a sequential listing of all valid data item numbers and applicable remarks/instructions.

(7) **Data Item Security Classification Indicator.** The data item classification indicator is used to indicate the classification of the data entry. This indicator follows the space after the data item number and is formatted using a single letter enclosed in parentheses followed by a space. The permissible entries are **(U)** for UNCLASSIFIED, **(C)** for CONFIDENTIAL, **(S)** for SECRET and **(T)** for Top Secret (for special stand-alone applications).

(8) **Data Element.** A data element is the most basic type of data entry. It consists of a series of letters and/or numbers immediately following the data item number or data item security classification indicator. Normally, one data element equates to one data item. For example, **FA** (used in Data Item 113 to denote station class) and **FT BRAGG** (used in data items 301 and 401 to show antenna location) are both data elements.

(9) **Data Entry.** A data entry may contain one or more data elements. For example, **113. FA** is a data entry consisting of the data item number (113. ) and one data element (FA); **705. FIRE,ALARM** is a data entry (System Identifier) consisting of the Data Item number (705. ) and two data elements: first, the primary function or purpose (FIRE), and second, the amplifying information (ALARM). Multiple data elements in the same data entry are separated by a comma or, in some cases, enclosed within parentheses e.g., **110. K6737.5(6736)**.

(a) **Single Occurring Data Entry.** A single occurring data entry may contain either one or more data elements; however, the data entry can appear only once in a frequency assignment transaction. For example, **005. UE** and **705. FIRE,ALARM** are both single occurring data entries.

(b) **Multiple Occurring Data Entry.** Data entries that appear more than once in a frequency assignment transaction are called multiple occurring data entries. In some cases, special rules apply as stated in Appendix A. Multiple occurring data entries are formatted with a data item number followed by a data item occurrence identifier, data item security classification indicator (if required), and the data entry.

## 2. **FORMAT**

a. **Message Format.** Temporary SFAF frequency assignment transactions are frequently sent via the Automatic Digital Network (AUTODIN) Defense Message System (DMS). The following guidance is provided for the preparation of these messages:

(1) **Headings.** Message headings must be formatted in accordance with approved communications procedures.

(2) **Security Classification.** The overall security classification of the message is based on that of the highest classified data item or combination of data items contained therein. All messages originated or received Outside the United States and



Possessions (OUS&P) should have an appropriate releasability statement indicating whether or not the message can be released to host nation officials.

(3) **Subject.** The subject line of the message begins with FREQUENCY PROPOSAL or FREQUENCY ASSIGNMENT, followed by the appropriate clarification as required, e.g., FREQUENCY PROPOSAL, USA. For crisis or contingency requirements, include FOR CONTINGENCY COMMUNICATIONS and the UNCLASSIFIED plan name or number if available, e.g., FREQUENCY PROPOSAL FOR CONTINGENCY COMMUNICATIONS, USN (OP PLAN 207-81).

(4) **Text.** A message may contain information pertaining to more than one frequency assignment. When this occurs, Data Item 005 (Security Classification) and Data Item 010 (Type of Action) must be the first data items listed in each message part. All data items must be listed in a vertical format and be in numerical sequence. Each line in the message is limited to 69 characters (including spacing and punctuation marks). This limitation is based on the AUTODIN's maximum line-length capability and is not to be confused with the data item input length limitations specified for each data item in Appendix A. If a data item requires more than one line of text, each additional line must be preceded by the data item number or data item occurrence identifier. See paragraph 3c(1) for details on entering more than one line of text for a particular data item.

(5) **Abbreviated Message Format.** An abbreviated message format may be used for frequency proposals whose period of requirement will not exceed 90 days. At a minimum, the following data items must be included: 005, 010, 110, 113, 114, 115, 140, 141, 144, 200, 207, 300, 301, 303, 340, 400, 401, 403, 440, 502, 701, 702, 803, and other applicable data items in the 500 data item series. For TOP SECRET, SECRET, or CONFIDENTIAL frequency proposals, include applicable SFAF data items 014-019 as required by Appendix A. Note: For Defense Communications Systems (DCS) high-frequency (HF) entry exercises, also include data items 354 and 454; for pulsed emitters also include data items 346 and 347; for aeronautical navigational aids and for air traffic control assignments also include data items 711 and 801.

b. **Automated Processing of Formatted Files.** Automated transactions prepared for transmittal from one computer to another either via the Secure Internet Protocol Routing Network (SIPRNET) or by STU-III secure devices must begin with the given file name, followed by a data string of the transaction(s) beginning with Data Item 005 through Data Item 999. These formatted files may be created on personal computers (PCs), using an editor or word processing software. The files created must be saved in the American Standard Communications Information Interface (ASCII) or equivalent text format.

### 3. PROCEDURES

The following procedures must be followed when using the SFAF:

a. **Prohibited Data Entries.** The following symbols should **not** be used as input data:

|               |                   |
|---------------|-------------------|
| & (ampersand) | ? (question mark) |
| : (colon)     | < (less than)     |

|   |                        |   |                    |
|---|------------------------|---|--------------------|
| ; | (semicolon)            | > | (greater than)     |
| [ | (left square bracket)  | % | (percent sign)     |
| ] | (right square bracket) | ! | (exclamation mark) |
| \ | (reversed slant bar)   | ^ | (Insert caret)     |
| # | (number/pound sign)    | " | (quotation mark)   |
| @ | (at sign)              | ' | (apostrophe)       |

b. **Restricted Data Entries.** The parenthesis ( ) cannot be used as part of text data in any data item since its use is reserved for data entry classification following the data item number(s) or as part of Data Item 110. Other data restrictions are shown below:

(1) The slant bar may be used as data in data items 020, 112, 302, 340, 341, 343, 355, 362, 402, 440, 443, 455, 462, 501, 502, 503, 504, 512, 513, 520, 530, 705, 707, 804, 983, and 985.

(2) The comma can only be used as data in data items 014, 018, 108, 145, 152, 501, 503, 504, 520, 705, and 804.

(3) The dash cannot be used in data items 301 and 401.

c. **Data Item Occurrence Identifiers.** Slant bars and commas may be used as data item occurrence identifiers as indicated below:

(1) **Slant Bars.** Slant bars are used to identify the order of occurrence of such data when modifying an existing record (e.g., **500/2. S165**).

Order of occurrence identifiers are not used for the following free-text data items where each line begins with only the 3-digit number: 502, 520, 531, 801, 804, 806, and 807.

(2) **Commas.** Commas are used to separate elements within a data entry (e.g., **705. FIRE,ALARM**). However, commas and slant bars cannot be used interchangeably; that is, if input instructions specify a comma, a slant bar cannot be used and vice versa.

d. **Receiver Location Identifiers.** Receiver location identifiers consisting of the letter R and a 2-digit number (01 through 30) are used to indicate whether the data is associated with the first, second, third, etc., receiver location. The receiver location identifier is entered immediately following the data entry reported for that data item. Consider, for example, **400. CO,R02** in which **400.** (State/Country) is the data item identifier, **CO** (Colorado) is the data entry for that item, and **R02** indicates that the data applies to the second receiver location. Note: If no receiver location identifier is specified, the first occurrence is assumed (e.g., **400. CO**).

e. **Data Item Purge Identifier.** A dollar sign following a data item number (e.g., **152. \$**) indicates that the data item is to be purged from the existing record. If a data entry contains more than one data element, then the entire entry is deleted. If a data item contains multiple data entries, the order of occurrence for each entry to be purged must be specified. Consider for example, **207/2. \$** and **207/3. \$**. In this

example, the data item occurrence identifiers (/2 and /3) indicate that the second and third operating unit designators in the record are to be purged. All remaining entries will be automatically renumbered during the purge process. Note: If a data item occurrence identifier is not specified, the first occurrence is assumed (e.g., **207. \$**). A data item being purged cannot be followed by an entry to add data in the same data item, except for data items 502, 520, 531, 804, 806, and 807 which are discussed in Appendix A.

f. **Types of Actions.** Six types of actions are used for the input of SFAF frequency assignment transactions (see Appendix A, Data Item 010). A combination of all types can be included in one multiple part message or in an automated transaction file. Formats used for each type of action are described below.

(1) **New (N).** The New action can be used to create frequency assignments from one or more message parts.

(a) **Creating a Frequency Assignment Using One Message Part.** If one frequency is assigned to a transmitter location, a frequency assignment can be generated using a single message part. Figure 1 is an example of a frequency assignment proposal (or transaction) used to create one HF assignment.

(2) **Modification (M).** The Modification action is used to modify frequency assignments; however, it cannot be used to modify the agency serial number, frequency, or transmitter state/country data items. At a minimum, data items 005, 010, 102, 110, 144 (203 for Army US&P actions), 300, 301, 701, 702, 803, and any data items to be modified or deleted, will be included. For TOP SECRET, SECRET, or CONFIDENTIAL frequency proposals, include applicable SFAF data items 014-019 as required. (See Appendix A.) When a data item is to be modified, include the data item number and the new data entry. The computer processor automatically deletes the old data entry except for data items 502, 520, 531, 801, 804, 806, and 807; in which case, the new data entry is added to the existing data entry unless those data items are preceded by the data item number and a dollar sign as described in paragraph 3e. See paragraph 4a(3)(f) for modifying classified information in data items 502, 520, 531, and 804. All data items used will be listed in the same sequence as they appear in Appendix A.

Figure 2 is an example of a message frequency proposal (or transaction) used to change Data Item 114, delete the old Data Item 502 data entry, and add a new Data Item 502 data entry.

The receiver location identifier must be used to modify data items when multiple receivers are involved. For example, if the third occurrence of antenna gain for the second receiver location is to be modified, it would be formatted as **457/3. 12,R02**.

|                    |
|--------------------|
| 005. UE            |
| 010. N             |
| 102. AF 881234     |
| 110. K4726.5(4725) |
| 113. FA            |

114. 3K00J3E  
 115. K10  
 130. 1HX  
 144. O  
 200. USAF  
 201. CINCPAC  
 202. PACAF  
 204. ACC  
 205. 5AF  
 206. 475ABW  
 207. 1956CG  
 209. JJPN  
 209/2. JPAC  
 300. J  
 301. TOKOROZAWA  
 303. 354750N1393844E  
 340. G,AN/GRC-212  
 343. 5737  
 357. 9  
 362. S  
 363. H  
 400. J  
 401. OWADA  
 403. 354645N1393254E  
 406. 3000  
 440. G,AN/GRC-212  
 443. 5737  
 457. 6  
 462. S  
 463. H  
 500. E029  
 502. AF-OR-CHANNEL. USAF MANAGED ASSIGNMENT  
 511. AIR OPERATIONS  
 512. AIR/GROUND/AIR OPERATIONS  
 513. GLOBAL  
 701. T08  
 702. ACC 88-005

Figure 1. A Frequency assignment proposal (or transaction) used to create one HF assignment.

FROM JFP MCEB WASHINGTON DC//NAVEMSCEN//  
 TO JFMO PAC HONOLULU HI  
 AIG 8788  
 INFO CINCPACFLT PEARL HARBOR HI//5//  
 NCTAMS WESTPAC GQ//FM0//  
 C O N F I D E N T I A L<sup>a</sup>//N02420//  
 SUBJ: FREQUENCY MODIFICATION USN (U)  
 A. JFMO PAC HONOLULU HI 021232Z APR 82  
 1. THE FOLLOWING RESPONDS TO YOUR REQUEST REF A.  
 005. CH,DEOADR  
 010. M  
 014. 19910520, CINCPAC OP PLAN 91-003  
 015. DATA ENTRIES NOT PRECEDED WITH (C) OR (S) ARE UNCLASSIFIED

|  |
|--|
| 102. N 773101<br>110. K16235<br>113. FX<br>114. (C) 12K0B9W<br>115. K10<br>144. O<br>300. J<br>301. TOTSUKA<br>502. \$<br>502. (C) TO SATISFY REQUIREMENT FOR TWO ADDITIONAL VOICE<br>502. (C) CHANNELS DCS 77BB01 DURING CONTINGENCY OPS.<br>701. 312<br>702. NESC 91-001<br>803. KEITH VAN BLARCOM, DSN 653-0104 |
| <sup>a</sup> Classified for illustration purposes only   |

Figure 2. Message part frequency proposal (or transaction) used to modify an existing frequency assignment.

Frequency assignment records are normally reviewed every five years or whenever the assignment is modified. The following data items must be submitted when only the review date is to be changed: 005, 010, 102, 110, 144, (203 for Army US&P actions), 300, 301 (504 for Interdepartment Radio Advisory Committee (IRAC) records), 701, 702, and 803. For TOP SECRET, SECRET, or CONFIDENTIAL frequency proposals, include applicable SFAF data items 014-019 as required by Appendix A. Data items 400 and 401 are also required for satellite downlink receivers. Figure 3 is an example of a frequency assignment proposal (or transaction) used to update a record's review date.

(3) **Deletion (D).** The following data items are required to delete an entire frequency assignment record from the FRRS central database: 005, 010, 102, 110, 144 (203 for Army US&P actions), 300, and 301. For TOP SECRET, SECRET, or CONFIDENTIAL frequency proposals, include applicable SFAF data items 014-019 as required. (See Appendix A.) Data items 400 and 401 are also required for satellite downlink receivers. Figure 4 is an example of a frequency proposal (or transaction) deleting an assignment from the FRRS central database.

|  |
|--|
| 005. UE<br>010. M<br>102. AR 733489<br>110. M32.05<br>144. Y<br>203. WS<br>300. NM<br>301. WHITESANDS MISSILE RANGE<br>504. RECORD REVIEW - NO CHANGES<br>701. A04<br>702. WSMR91102105<br>803. T. BANKS, DSN 235-6010 |
|--|

Figure 3. A frequency proposal (or transaction) used to update a record's review date.

005. UE  
 010. D  
 102. AF 748121  
 110. M9375  
 144. Y  
 300. TX  
 301. BERGSTROM  
 701. T06  
 702. ACC 81-171  
 803. B. BERRY, DSN 471-7050

Figure 4. A frequency proposal (or transaction) used to delete a frequency assignment record from the FRRS central database.

(4) **Notification (F).** This type of action is to be used to notify IRAC that a frequency authorized under a group assignment is being brought into use. This action is based on the authority granted previously by IRAC and when the assignment being created is to be stored in a Government Master File (GMF). The Notification action is formatted the same as a New action, except that the agency serial number of the group assignment record stored in the GMF must be entered in Data Item 105. The Notification action is limited to Military Departments (MILDEPs)/AGENCY USE ONLY.

(5) **Renewal (R).** Frequency assignment records are normally reviewed prior to their expiration date or whenever they are modified. When only the expiration date is to be changed, the following data items will be submitted: 005, 010, 102, 110, 141, 144 (203 for Army US&P actions), 300, 301, 701, 702, and 803. For TOP SECRET, SECRET, or CONFIDENTIAL frequency proposals, include applicable SFAF data items 014-019 as required. (See Appendix A.) Data items 400 and 401 are also required for satellite downlink receivers. Enter other data items in the 700 series if applicable. If the record contains Data Item 141 (Expiration Date), and if data items other than Data Item 141 must be updated, a Renewal (R) action must be used, and the other data items must be modified as outlined in paragraph 3f(2). Figure 5 is an example of a frequency proposal (or transaction) used for a renewal action.

005. CE,DEOADR<sup>a</sup>  
 010. R  
 102. AR 774489  
 110. M148.025  
 141. 19920613  
 144. Y  
 203. DW  
 300. DC  
 301. WASHINGTON  
 701. A04  
 702. MDW0911222  
 803. SSG SMITH, DSN 335-2486

<sup>a</sup> Classified for illustration purposes only

Figure 5. A frequency proposal (or transaction) used for a Renewal action.

(6) **Administrative Modification (A).** This type of action is used to make changes to the FRRS record in the three general categories outlined below.

(a) **Typographical Corrections.** These changes are made to correct information in a database record that is different from that contained in the official document (i.e., the GMF record for US&P assignments).

(b) **Changes to Administrative Data Items.** Changes to administrative data (e.g., the 200 series and/or other non-IRAC data items) are made for standardization or reorganizational reasons, etc. Guidance concerning data items that may be changed for these reasons will be disseminated by a MILDEP, an agency, or a Commander-in-Chief (CINC) directive.

Computer editing will be applied to all data items, and the Review Date (Data Item 142) will not be changed unless it is specifically included in the administrative modification request. Input requirements are usually the same as those required for a Modification action (paragraph 3f(2)). In all cases, authority for administrative changes will be the Joint Frequency Panel (JFP) or the appropriate MILDEP, agency, Frequency Management Office (FMO), or CINC. Figure 6 is an example of a change made to data items 204 and 205.

(c) **Multiple Record Changes.** Multiple record changes (i.e., identical modifications to 25 or more records) are often required for compliance with international, national, or DoD rules and regulations. Changes to less than 25 records must be processed as individual transactions. Requests for multiple record changes may be made by letter or E-mail. The request must indicate the type of action (Data Item 010 equals M or A) and whether the action to be submitted to the National Telecommunications and Information Administration (NTIA) is to be processed as a record in which Data Item 144 equals Y.

|                                    |
|------------------------------------|
| 005. UE                            |
| 010. A                             |
| 102. AR 834002                     |
| 110. M36.510                       |
| 144. N                             |
| 203. PA                            |
| 204. USARPAC                       |
| 205. 1106SIGBDE                    |
| 300. HI                            |
| 301. FT SHAFTER                    |
| 701. A04                           |
| 702. KDH091102199                  |
| 803. K.D. HOLTON, DSN 315-438-8219 |

Figure 6. A frequency proposal (or transaction) used to administratively change an existing database record.

Under current procedures, multiple record changes submitted to NTIA through the Joint Spectrum Center (JSC) processor will result in changing the Revision Date (Data Item 143) in the GMF and the Review Date (Data Item 142) in the FRRS record. Multiple

record changes submitted to NTIA via the Frequency Assignment Subcommittee (FAS) representative will result in only the requested data item being changed and the Revision Date will not be changed in the GMF record; in this situation, a copy of the same request must be forwarded to the JSC where an Administrative Modification action will be taken.

Multiple record change requests must also indicate the select criteria required to identify the records that are to be changed and the data items that are to be modified. Multiple record change requests should be carefully thought out and precisely worded to prevent inadvertent modification of nonapplicable records. Input requirements may be supplied by using either the data item number or narrative text. For example:

1. If Data Item 200 equals United States Air Force (USAF) or joint service (JNTSVC) and (a) the agency serial number starts with AF and (b) Data Item 207 equals 376SW, change Data Item 207 to 388SW. Process multiple record changes with Data Item 010 equal to A and Data Item 144 equal to N.

2. If Data Item 200 equals USA and Data Item 114 equals 6K00A3E, change Data Item 114 to 6K00B9W. If Data Item 144 equals Y, enter Data Item 010 as M. If Data Item 144 equals O, U, or blank, enter Data Item 010 as A.

#### **4. GENERAL RULES REGARDING TRANSACTION SECURITY CLASSIFICATION AND THE PROCESSING OF SECRET FREQUENCY ASSIGNMENT TRANSACTION DATA TO NTIA.**

The FRRS central database contains UNCLASSIFIED, CONFIDENTIAL, and SECRET data, plus data requiring special handling instructions (see special handling codes listed under Data Item 005 in Appendix A). The following rules apply to the transaction security classification of such data and to the processing of SECRET frequency assignment transactions submitted to NTIA. See paragraph 5 for the processing of Top Secret (TS) Data.

##### **a. Transaction Security Classification.**

(1) **Data Item 005 (Security Classification).** Data Item 005 is required for all SFAF frequency assignment transactions. For New actions, Data Item 005 must contain the record's security classification and any special handling instructions (note that special handling codes are mandatory for all proposals. For Modification and Deletion actions, Data Item 005 must show the security classification and special handling instructions of the record to be modified or deleted; therefore, the security classification shown in Data Item 005 may be different from the actual security classification of the message or data file used to modify or delete the record. For example, a message or data file containing changes to an UNCLASSIFIED data item in a classified record is, by itself, UNCLASSIFIED unless the change contains data items that are considered classified when listed together. Therefore, an “S” or “C” entered in Data Item 005 of a Modification or Deletion action does not necessarily make that message or data file classified; it only indicates the security classification of the existing SFAF record that is to be acted upon.



(2) **Data Item 006 (Security Classification Modification).** Data Item 006 is only used in conjunction with Data Item 005 to change the security classification, special handling code, or declassification/review instructions of an existing SFAF record. Data Item 005 will contain the record's security classification and special handling instructions as they presently exist, and Data Item 006 will contain the new security classification, special handling code, and declassification/review instructions. Once again, the security classification of the message or data file containing the modification is based solely on the overall content of the message or data file.

(3) **Classification Guide and Entry Procedures for SECRET or CONFIDENTIAL data items.** The following guidelines and procedures apply to classified data items.

(a) For the SFAF, SECRET and CONFIDENTIAL data must be identified by entering an S or C security classification indicator within the parentheses immediately following the data item number (see Figure 7, Data Item 114/2). A (U) is not required for UNCLASSIFIED data items if the sentence **DATA ITEMS NOT IDENTIFIED AS CLASSIFIED ARE UNCLASSIFIED** is included on the line following the security classification of the message or if Data Item 015 contains: **"DATA ENTRIES NOT PRECEDED WITH (C) OR (S) ARE UNCLASSIFIED."** The security classification indicator is not considered part of the data entry and is therefore not included in the maximum number of data characters permitted. Special handling codes are not entered at the data item level; they are entered only with the overall record security classification in Data Item 005.

C O N F I D E N T I A L<sup>a</sup>  
DATA ITEMS NOT IDENTIFIED AS CLASSIFIED ARE UNCLASSIFIED  
SUBJ: FREQUENCY ASSIGNMENT PROPOSAL - USAF (U)  
005. CK,DEOADR  
010. N  
014. 19880311, PACAF OP PLAN 88-002  
015. DATA ENTRIES NOT PRECEDED WITH (C) OR (S) ARE UNCLASSIFIED  
102. AF 882345  
110. K7624.5(7623)  
113. FX  
113/2. FX  
113/3. FA  
113/4. FA  
114. 3K00J3E  
114/2. (C) 800H00J2B  
114/3. 3K00J3E  
114/4. (C) 800H00J2B  
115. (C) W400  
115/2. (C) W400  
115/3. (C) W20  
115/4. (C) W20  
130. 3HX  
140. 19881012  
144. Y  
200. USAF  
201. CINCPAC  
202. PACAF  
204. PACAF  
205. 13AF  
206. 3CSG  
207. ANDERSEN  
209. JGUM  
209/2. JPAC  
300. GUM  
301. ANDERSEN  
303. 134901N1453330E

340. (C) G,AN/URG99X  
 343. 9999  
 357. 9  
 362. S  
 363. H  
 400. HI,R01  
 400. GUM,R02  
 400. (C) PAC,R03  
 401. WAHIAWA,R01  
 401. FINEGAYAN,R02  
 401. (C) AIRCRAFT,R03  
 403. 212529N1580540W,R01  
 403. 133455N1445050E,R02  
 440. (C) G,AN/URG99X,R01  
 440. (C) G,AN/URG99X,R02  
 440. (C) G,AN/URG99X,R03  
 443. 9999,R01  
 443. 9999,R02  
 457. 9,R01  
 457. 9,R02  
 457. 9,R03  
 462. S,R01  
 462. S,R02  
 462. S,R03  
 463. H,R01  
 463. H,R02  
 463. H,R03  
 500. S141  
 502. (C) REQUIRED TO SUPPORT CONTINGENCY AND RECONNAISSANCE  
 502. (C) IN THE PACIFIC AREA.  
 511. AIR OPERATIONS  
 512. EXECUTIVE  
 513. (C) AIRBORNE COMMAND CENTER  
 701. T08  
 702. PACAF 88-0001  
 707. 253-11  
 803. JOE DOKES, DSN 335-1825

<sup>a</sup>Classified for illustration purposes only

Figure 7. Example of an older frequency proposal (or transaction) message part with classified and UNCLASSIFIED multiple transmitter and receiver data.

(b) Frequency assignment records maintained in the DoD automated central database cannot be classified higher than SECRET.

(c) Data items are generally classified according to their individual content. However, there may be instances where UNCLASSIFIED data items become classified when associated with other UNCLASSIFIED or classified data items or where CONFIDENTIAL data items may become SECRET when associated with other CONFIDENTIAL or SECRET data items. For example, the frequency, equipment nomenclature, location, emission designation, and power data items may be UNCLASSIFIED as individual data items but become classified when grouped together or when subsets are grouped in various combinations. Therefore, since it is not cost-effective to try to identify the various combinations, all data items within the group must be given the same security classification. The security classification of data items and records with special handling instructions is normally based upon information derived from a source document such as a Security Classification Guide (SCG) or Operations Plan. The identification of this source document must be included in Data Item 014.

(d) Paragraph 3f(1) and Figure 1 show how to create UNCLASSIFIED records and explain the relationship of data item numbers. The following subparagraphs (1 and 2) refer to the data items shown in Figure 7.

1. The special handling code for the overall record is entered only in Data Item 005. Nowhere else in the record should special handling code information be entered except for those records not covered by an existing code. In such cases, free-text special handling instructions may be placed in data items 502 or 503.

2. The Description of Requirement (Data Item 502) provides a description of the assignment and is classified CONFIDENTIAL. Note that although this single data item is entered in paragraph form, the data item number and security classification appear on both lines.

(e) Declassification of the entire record (Figure 7) would require the entry of the present record security classification (**005. CK,DEOADR**), followed by the Security Classification Modification data item (**006. UE**), each classified data item with the classification changed to a "U" or a "blank", and the other data items necessary for a modification as indicated in paragraph 3f(2). This modification would not change the data content, but would change all CONFIDENTIAL data items to UNCLASSIFIED and change the special handling restriction from **K** to **E**. See Figure 7.1 for an example transaction that would declassify the record in Figure 7.

(f) Paragraph 3f(2) explains the format used to modify UNCLASSIFIED frequency assignments. Figure 8 shows how to modify the classified data items shown in Figure 7. The following subparagraphs (1 through 5) refer to the data items shown in Figure 8.

1. The complete record classification (Data Item 005) must be reentered. Any other security related items (Data items 014-019) must also be reentered. Any changes or additions are made to data items 014-019 where necessary. These repeat entries are necessary so the modification transaction can be properly handled and protected until the changes are merged into the master database record.

```
SUBJ: FREQUENCY ASSIGNMENT PROPOSAL - USAF (U)
005. CK,DEOADR
006. UE
010. M
014. $
015. $
102. AF 882345
110. K7624.5(7623)
114/2. 800H00J2B
114/4. 800H00J2B
115. W400
115/2. W400
115/3. W20
115/4. W20
144. Y
300. GUM
301. ANDERSEN
340. G,AN/URG99X
400. PAC,R03
401. AIRCRAFT,R03
440. G,AN/URG99X,R01
440. G,AN/URG99X,R02
440. G,AN/URG99X,R03
502. $
502. REQUIRED TO SUPPORT CONTINGENCY AND RECONNAISSANCE
502. IN THE PACIFIC AREA.
513. AIRBORNE COMMAND CENTER
701. T08
702. PACAF 00-084
803. SAM BROWN, DSN 335-1825
```

Figure 7.1 Example of Declassifying an Existing Record and Each Classified Item In the Record

|  |
|--|
| CONFIDENTIAL <sup>a</sup><br>DATA ITEMS NOT IDENTIFIED AS CLASSIFIED ARE UNCLASSIFIED<br>SUBJ: FIVE-YEAR REVIEW (U)<br>005. CK,DEOADR<br>010. M<br>006. CK,DEX4<br>014. 19960105, PACAF OP PLAN 96-001<br>015. DATA ENTRIES NOT PRECEDED WITH (C) OR (S) ARE UNCLASSIFIED<br>102. AF 882345<br>110. (C) K7624.5(7623)<br>115. (C) K1.5<br>115/2. W20<br>115/4. W20<br>144. O<br>300. J<br>301. TACHIKAWA<br>502. JOINT RESPONSIBILITY OF PACAF AND ACC.<br>701. T08<br>702. ANG 79-063<br>803. JOHN DOE DSN 335-1825 |
| <sup>a</sup> Classified for illustration purposes only   |

Figure 8. Example of a frequency proposal (or transaction) message part used to modify a classified record.

2. The record classification instructions are modified by entering Data Item **006. CK,DEX4** and a new operations plan is reflected in the derivative classification authority (Data Item 014).

3. The first power data entry in Data Item 115 has been increased from W400 to K1.5. Note that the security classification had to be reentered. The second and fourth power data entries (data items 115/2 and 115/4) were downgraded to UNCLASSIFIED (these power data entries could also have been entered as **115/2. (U) W20** and **115/4. (U) W20**). Since there was no change to the third power data entry, no data was entered.

4. Data Item 502 may be entered by using the purge-and-replace technique as follows:

502. \$  
502. New Data

Note: If the purge-and-replace technique is **not** used, carefully follow the rules stated in subparagraph 4 below.

5. The new data entry in Data Item 502 is automatically added to the existing data entry shown in Figure 7. If the existing data was to be deleted, a purge identifier (e.g., **502. \$**) would have been inserted on the line preceding the new data entry (see paragraph 3e). **IMPORTANT! THE SECURITY CLASSIFICATION OF A NEW ENTRY WILL AUTOMATICALLY PURGE AND REPLACE THE SECURITY CLASSIFICATION OF THE EXISTING ENTRY.** Therefore, because of the importance of this unique feature, the rules in Table 1 must be followed to ensure that the entire data item is properly classified whenever it is modified. After being modified, Data Item 502 would appear in the record as follows:

502. REQUIRED TO SUPPORT CONTINGENCY AND RECONNAISSANCE  
502. IN THE PACIFIC AREA.  
502. JOINT RESPONSIBILITY OF PACAF AND ACC.

Note that in the preceding example the entire Data Item 502 entry was downgraded (**IN ERROR!**) from CONFIDENTIAL to UNCLASSIFIED because the new data entry was not classified CONFIDENTIAL. The **correct** data entry should have been:

502. (C) JOINT RESPONSIBILITY OF PACAF AND ACC.

**Table 1 - Rules for Classifying Data Items 502, 520, and 531**

| <b>R<br/>U<br/>L<br/>E</b> | <b>If the classification of<br/>the<br/>existing data is:</b> | <b>and the classification of<br/>the new data being<br/>added is:</b> | <b>then the classification<br/>symbol to be entered<br/>with the new data must<br/>be:</b> |
|----------------------------|---|---|--|
| 1<br>2<br>3                | (no data)<br>"<br>"   | UNCLASSIFIED<br>CONFIDENTIAL<br>SECRET                                | blank or (U)<br>(C)<br>(S)   |
| 4<br>5<br>6                | UNCLASSIFIED<br>"<br>"  | UNCLASSIFIED<br>CONFIDENTIAL<br>SECRET                                | blank or (U)<br>(C)<br>(S)   |
| 7<br>8<br>9                | CONFIDENTIAL<br>"<br>"  | UNCLASSIFIED<br>CONFIDENTIAL<br>SECRET                                | (C)<br>(C)<br>(S)  |
| 10<br>11<br>12             | SECRET<br>"<br>"  | UNCLASSIFIED<br>CONFIDENTIAL<br>SECRET                                | (S)<br>(S)<br>(S)  |

**b. Processing SECRET Frequency Assignment Transactions to NTIA.** The NTIA automated database contains only UNCLASSIFIED and CONFIDENTIAL data; therefore, JSC does not include SECRET data in those transactions sent to NTIA via automated data transfer. SECRET data, however, is forwarded to NTIA in "Code Z" docket form and is stored there in classified containers for reference and coordination. Neither the JSC nor NTIA processes or stores data in a manner other than as indicated above. If an assignment contains TOP SECRET data, the submitting organization should omit such data and include a comment in the transaction, such as "additional information is not available without a higher clearance, contact the submitting agency." Use of data items shown in Table 2 will determine which organizations are to see the comment and in which database(s), if any, the comment is to be stored.

The following rules apply when Data Item 110 (Frequency) or Data Item 102 (Agency Serial Number), is classified SECRET and when Data Item 144 (Record Indicator) is equal to Y (assignment record is to be processed through IRAC).

(1) If Data Item 110 (Frequency) or Data Item 102 (Agency Serial Number), is classified SECRET, the JSC will process these records and forward them to NTIA only in document form, using NTIA "Z" docket format procedures. The records will be placed before the FAS as SECRET agenda data items. The JSC will NOT include any portion of such records in the automated files forwarded to NTIA.

**Table 2 - Visibility of Comments**

| <b>Item</b> | <b>Seen by:</b> | <b>Where stored:</b> |
|-------------|-----------------|----------------------|
|-------------|-----------------|----------------------|

|     |                                    |   |
|-----|------------------------------------|---|
| 502 | DoD only                           | FRRS central database                         |
| 503 | All US government agencies         | In both the GMF and the FRRS central database |
| 504 | DoD and all US government agencies | Not stored in any database                    |
| 801 | DoD only                           | Not stored in any database                    |

(2) NTIA is planning to change GMF automated processing procedures to accept SECRET data. When that happens Z docket procedures will be phased out and all SECRET data will be sent to NTIA in automated form.

c. **Processing UNCLASSIFIED records that when aggregated together are classified CONFIDENTIAL.** The grouping together of all UNCLASSIFIED records in the FRRS makes the group CONFIDENTIAL.<sup>1</sup> Further, the grouping together of all of the Army or all of the Navy or all of the Air Force or all of the National Security Agency (NSA) UNCLASSIFIED FRRS records, also makes these groups of records classified CONFIDENTIAL. In order to identify these records when they are separated from the individual groups discussed above, a special handling code will be entered in each UNCLASSIFIED record that meets the criteria specified in Section 3 of the *DoD Frequency Assignment Security Classification Guide*. There is an exemption to the grouping of assignments together. UNCLASSIFIED frequency assignments to DoD stations that are operating on frequencies authorized to non-Federal-Government stations where such utilization is necessary for intercommunication with non-Federal-Government stations or required for coordination with non-Federal-Government activities are exempt from the requirements of the *DoD Guide*.

## 5. PROCESSING TOP SECRET (TS) DATA.

a. **General.** In addition to processing SECRET and CONFIDENTIAL data as described in paragraph 4, the Spectrum XXI system is capable of processing, up to TS, FRRS data in the stand-alone mode. TS level users are normally located in Sensitive Compartmented Information Facilities (SCIFs) and **WILL NOT** be exchanging data with other FRRS users via the **SECRET** level SIPRNET. TS users in SCIFs may exchange data with staff in other SCIFs; however, the data will be passed via networks capable of handling TS data.

b. **Software Changes to Accommodate TS Processing.** The major software changes applicable to FRRS SFAF frequency assignment data in the TS environment are as follows:

(1) The letter "T" is acceptable as an entry in the 'security classification of the record' portion of SFAF Data Item 005.

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<sup>1</sup>MCEB-M-019-98, 26 Jan 1998, *DoD Frequency Assignment Security Classification Guide*.

(2) Additional special handling codes are permitted in SFAF Data Item 005.

(3) The letter (T) is permitted as a valid data entry in the Data Item Security Classification Indicator.

(4) The letter "S" is acceptable as a 'new classification level' data entry in Data Item "503. DNG,".

(5) Certain validation checks pertaining to the above three areas have been changed to accept the new data.

## APPENDIX A - GUIDE TO THE SFAF DATA ITEMS

1. All data items listed in this appendix are not required for every frequency assignment transaction. Required data items are based on type of radio service, i.e., radionavigation, aeronautical radionavigation, space, etc. Data item numbers not listed are reserved for future use. Data items 982 through 999 are used only in tactical operations.
2. Data items marked with endnote<sup>2</sup> are reserved for use by headquarters of the Army, Navy, Air Force, Defense Information Systems Agency (DISA), NSA, and CINCs. Agencies may authorize use of these data items by subordinates, as desired.
3. The information presented for each data item is formatted as follows: Each data item starts with the data item name and number in bold print. The second line begins with the maximum number of characters (including spaces) that can be entered for that data element. The maximum number of characters does not include the data item number itself, the slash (if present), the occurrence identifier, the period and space following the data item number, the security classification indicator (U, C, S, or T) when present, the space following the security classification indicator or the receiver location identifier. The maximum number of characters is followed by the maximum number of occurrences allowed to be entered in a single database record or at each receiver location in a single database record.
4. Since many data items are recognized by NTIA, the GMF tag is included for reference purposes. The INPUT REQUIREMENT contains the rules for submission and any examples needed for clarification of the rules of submission.
5. Table A1 lists the SFAF data item number, title, Spectrum XXI tag, the data element maximum input length, the maximum number of occurrences permitted in a database record and also indicates whether or not the data item is forwarded to NTIA. In those few instances where the number of characters sent to NTIA is less than the input length, the number of characters sent to NTIA is included in the To IRAC column.



**Table A1 Summary of Data Item Specifications**

| SFAF<br>Data Item<br>Number     | Title                                     | Spectrum XXI<br>Tags     | Maximum<br>Input<br>Lengths | Maximum<br>Occurrences | To<br>IRAC <sup>a</sup> | GMF<br>Tags                    |
|---------------------------------|---|--------------------------|-----------------------------|------------------------|-------------------------|--------------------------------|
| <b>ADMINISTRATIVE DATA</b>      |   |                          |                             |                        |                         |                                |
| 005                             | Security Classification                   | CLA,CDD,FOI <sub>m</sub> | 2,10                        | 1                      | Y                       | CLA, CDD,<br>FOI <sup>c</sup>  |
| 006                             | Security Classification<br>Modification   | CLA,CDD,FOI <sub>m</sub> | 2,10                        | 1                      | Y                       | CLA, CDD,<br>FOI <sup>c</sup>  |
| 007 <sup>h</sup>                | Missing Data Indicator                    | MSD                      | 1                           | 1                      | Y                       | MSD                            |
| 010                             | Type of Action                            | TYP                      | 1                           | 1                      | Y                       | TYP                            |
| 014                             | Derivative Classification<br>Authority    | CLF                      | 8,60                        | 10                     | Y35                     | *CLF <sup>b</sup>              |
| 015                             | Unclassified Data Fields                  | CLU                      | 72                          | 1                      | Y35                     | *CLU <sup>b</sup>              |
| 016                             | Extended Declassification<br>Date         | CDE                      | 35                          | 1                      | Y                       | *CDE <sup>b</sup>              |
| 017                             | Downgrading Instructions                  | DNG                      | 1,8                         | 1                      | Y                       | *AGN,DNG <sup>b</sup>          |
| 018                             | Original Classification Authority         | OCA                      | 60                          | 1                      | Y35                     | *CLA <sup>b</sup>              |
| 019                             | Reason for Classification                 | CLR                      | 35                          | 1                      | Y                       | *CLR <sup>b</sup>              |
| 020                             | Proposal References                       |                          | 64                          | 10                     | N                       |                                |
| 102                             | Agency Serial Number                      | SER                      | 10                          | 1                      | Y                       | SER                            |
| 103                             | IRAC Docket Number                        | AUS                      | 8                           | 3                      | N <sup>i</sup>          | AUS                            |
| 105                             | List Serial Number                        | LSN                      | 10                          | 1                      | Y                       | LSR                            |
| 106 <sup>f</sup>                | Serial Replaced, Delete Date              | SRS,SEX                  | 10,8                        | 1                      | Y                       | SRS,SEX                        |
| 107                             | Authorization Date                        | AUD                      | 8                           | 1                      | N <sup>i</sup>          | AUD                            |
| 108                             | Docket Numbers of Older<br>Authorizations | DOC                      | 35                          | 30                     | Y                       | *DOC                           |
| <b>EMISSION CHARACTERISTICS</b> |   |                          |                             |                        |                         |                                |
| 110                             | Frequency(ies)                            | FRQ,FRU                  | 11,11-11,<br>11(11)         | 1                      | Y                       | FRQ,*FRB <sup>b</sup>          |
| 111                             | Excluded Frequency Band                   | FBE                      | 23                          | 30                     | Y                       | *FBE <sup>b</sup>              |
| 112                             | Frequency Separation Criteria             |                          | 35                          | 1                      | N                       |                                |
| 113                             | Station Class                             | STC                      | 4                           | 20                     | Y                       | STC                            |
| 114                             | Emission Designator                       | EMS                      | 11                          | 20                     | Y                       | EMS                            |
| 115                             | Transmitter Power                         | PWR                      | 9                           | 20                     | Y                       | PWR                            |
| 116                             | Power Type                                |                          | 1                           | 20                     | N                       |                                |
| 117                             | Effective Radiated Power                  |                          | 6                           | 20                     | N                       |                                |
| 118 <sup>j</sup>                | Power/ERP Augmentation                    |                          | 1                           | 20                     | N                       |                                |
| <b>TIME/DATE INFORMATION</b>    |   |                          |                             |                        |                         |                                |
| 130                             | Time                                      | TME                      | 4                           | 1                      | Y                       | TME                            |
| 131                             | Percent Time                              |                          | 2                           | 1                      | N                       |                                |
| 140                             | Required Date                             |                          | 8                           | 1                      | N                       |                                |
| 141                             | Expiration Date                           | EXD                      | 8                           | 1                      | Y                       | EXD                            |
| 142                             | Review Date                               |                          | 8                           | 1                      | N                       |                                |
| 143                             | Revision Date                             | RVD                      | 8                           | 1                      | N <sup>i</sup>          | RVD                            |
| 144                             | Record Indicator                          |                          | 1                           | 1                      | N                       |                                |
| 145                             | ITU BR Registration                       |                          | 1,20                        | 1                      | N                       |                                |
| 146                             | DCS Trunk ID                              |                          | 6                           | 20                     | N                       |                                |
| 147                             | Joint Agencies                            | JNT                      | 4                           | 20                     | Y                       | *JNT                           |
| 151                             | Coordination Indicator                    | ICI                      | 1                           | 1                      | Y                       | ICI                            |
| 152                             | Coordination Data                         | CAN,MEX,US<br>A          | 1,35                        | 30                     | Y                       | *CAN,*MEX<br>*USA <sup>n</sup> |

**Table A1 Summary of Data Item Specifications**

| SFAF Data Item Number      | Title                                 | Spectrum XXI Tags | Maximum Input Lengths | Maximum Occurrences | To IRAC <sup>a</sup> | GMF Tags                                  |                   |
|----------------------------|---------------------------------------|-------------------|-----------------------|---------------------|----------------------|---|-------------------|
| ORGANIZATIONAL INFORMATION |                                       |                   |                       |                     |                      |   |                   |
| 200                        | Agency                                | BUR               | 6                     | 1                   | N                    | BUR                                       |                   |
| 201                        | Unified Command                       |                   | 8                     | 10                  | N                    |   |                   |
| 202                        | Unified Command Service               |                   | 8                     | 10                  | N                    |   |                   |
| 203                        | Bureau                                |                   | 4                     | 1                   | Y <sup>b</sup>       |   |                   |
| 204                        | Command                               |                   | 18                    | 1                   | N                    |   |                   |
| 205                        | Subcommand                            |                   | 18                    | 1                   | N                    |   |                   |
| 206                        | Installation Frequency Manager        | NET               | 18                    | 1                   | N                    | NET                                       |                   |
| 207                        | Operating Unit                        |                   | 18                    | 10                  | N                    |   |                   |
| 208                        | User Net/Code                         |                   | 6                     | 10                  | Y5 <sup>d</sup>      |   |                   |
| 209                        | Area AFC/DoD AFC/ Other Organizations |                   | 18                    | 10                  | N                    |   |                   |
| TRANSMITTER LOCATION DATA  |                                       |                   |                       |                     |                      |   |                   |
| 300                        | State/Country                         | XSC               | 4                     | 1                   | Y                    | XSC                                       |                   |
| 301                        | Antenna Location                      | XAL               | 24                    | 1                   | Y                    | XAL                                       |                   |
| 302                        | Station Control                       | XRC               | 18                    | 1                   | Y8                   | XRC                                       |                   |
| 303                        | Antenna Coordinates                   | XLA XLG           | 15                    | 1                   | Y                    | XLA XLG                                   |                   |
| 304                        | Call Sign                             | XCL               | 10                    | 1                   | Y8                   | XCL                                       |                   |
| 306                        | Authorized Radius                     | XRD               | 5                     | 1                   | Y                    | *RAD <sup>b</sup>                         |                   |
| SPACE STATIONS             |                                       |                   |                       |                     |                      |   |                   |
| 315                        | Equatorial Inclination Angle          | XIN               | 4                     | 1                   | Y                    | *ORB <sup>b</sup>                         |                   |
| 316                        | Apogee                                | XAE               | 5                     | 1                   | Y                    | *ORB <sup>b</sup>                         |                   |
| 317                        | Perigee                               | XPE               | 5                     | 1                   | Y                    | *ORB <sup>b</sup>                         |                   |
| 318                        | Period of Orbit                       | XPD               | 7                     | 1                   | Y                    | *ORB <sup>b</sup>                         |                   |
| 319                        | Number of Satellites                  | XNR               | 2                     | 1                   | Y                    | *ORB <sup>b</sup>                         |                   |
| 321                        | Power Density                         | SPD               | 4                     | 1                   | Y                    | SPD                                       |                   |
| TRANSMITTER EQUIPMENT      |                                       |                   |                       |                     |                      |   |                   |
| 340                        | Equipment Nomenclature                | XEQ               | 1,18                  | 10                  | Y                    | *EQT <sup>b</sup>                         |                   |
| 341                        | Number of Stations, System Name       | NTT,NAM           | 5,29                  | 3                   | Y                    | *NRM <sup>b</sup>                         |                   |
| 342 <sup>j</sup>           | Aircraft Nautical Mile Value          | XNM               | 4                     | 1                   | N                    | *RAD <sup>b</sup>                         |                   |
| 343                        | Equipment Allocation Number           | EQS               | 7                     | 10                  | Y                    | *AGN,JFA <sup>b</sup>                     |                   |
| 344 <sup>h</sup>           | Off-the-shelf Equipment               |                   | 6                     | 10                  | Y                    | *EQS <sup>b</sup>                         |                   |
| 345                        | Radar Tunability                      |                   | TUN                   | 2                   | 1                    | Y   | *EQT <sup>b</sup> |
| 346                        | Pulse Duration                        |                   | PDD                   | 9, 9-9              | 30                   | Y   | *EQT <sup>b</sup> |
| 347                        | Pulse Repetition Rate                 |                   | PRR                   | 9, 9-9              | 30                   | Y   | *PRR <sup>b</sup> |
| 348                        | Intermediate Frequency                |                   |                       | 11                  | 1                    | N   |                   |
| 349                        | Sidelobe Suppression                  |                   |                       | 1                   | 1                    | N   |                   |
| TRANSMITTER ANTENNA DATA   |                                       |                   |                       |                     |                      |   |                   |
| 354                        | Antenna Name                          | XAT               | 10                    | 10                  | Y                    | XAD                                       |                   |
| 355                        | Antenna Nomenclature                  | XAK               | 18                    | 10                  | Y                    | *EQT <sup>b</sup>                         |                   |
| 356                        | Antenna Structure Height              | XAG               | 3                     | 10                  | N                    |   |                   |
| 357                        | Antenna Gain                          |                   | 4                     | 10                  | Y                    | XAD,*EGN <sup>b</sup> , *SGN <sup>b</sup> |                   |
| 358                        | Antenna Elevation                     |                   | XSE                   | 5                   | 10                   | Y   | XAD               |
| 359                        | Antenna Feedpoint Height              |                   | XAH                   | 5                   | 10                   | Y   | XAD               |

**Table A1 Summary of Data Item Specifications**

| SFAF Data Item Number  | Title                                  | Spectrum XXI Tags | Maximum Input Lengths   | Maximum Occurrences | To IRAC <sup>a</sup> | GMF Tags                                 |
|--|--|-------------------|-------------------------|---------------------|----------------------|--|
| 360  | Antenna Horizontal Beamwidth           | XBW               | 4                       | 10                  | Y                    | XAD,*EBW <sup>b</sup> ,*SBW <sup>b</sup> |
| 361  | Antenna Vertical Beamwidth             | XAZ,XAA           | 3                       | 10                  | N                    | XAZ,XAD                                  |
| 362  | Antenna Orientation                    |                   | 3 3,3<br>3,3-3<br>3,3/3 | 10                  | Y                    |  |
| 363  | Antenna Polarization                   |                   | XAP                     | 1                   | 10                   |  |
| 373 <sup>j</sup>   | JSC Area Code                          |                   | 1                       | 1                   | N                    |  |
| 374  | ITU Region                             |                   | 1                       | 1                   | N                    |  |
| RECEIVER LOCATION DATA (Maximum receiver locations allowed: 30) <sup>k</sup> |  |                   |                         |                     |                      |  |
| 400  | State/Country                          | RSC               | 4                       | 1                   | Y                    | RSC                                      |
| 401  | Antenna Location                       | RAL               | 24                      | 1                   | Y                    | RAL                                      |
| 402  | Receiver Control                       | RRC               | 18                      | 1                   | Y8                   | RRC                                      |
| 403  | Antenna Coordinates                    | RLA RLG           | 15                      | 1                   | Y                    | RLA RLG                                  |
| 404  | Call Sign                              | RCL               | 10                      | 1                   | Y8                   | ACL                                      |
| 406  | Authorized Radius                      | RRD               | 4                       | 1                   | Y                    | *RAD <sup>b</sup>                        |
| 407 <sup>j</sup>   | Path Length                            |                   | 5                       | 1                   | N                    |  |
| 408  | Repeater Indicator                     | RPT               | 1                       | 1                   | Y                    | *RPT <sup>b</sup>                        |
| SPACE STATIONS (Maximum receiver space stations allowed: 30) <sup>k</sup>    |  |                   |                         |                     |                      |  |
| 415  | Equatorial Inclination Angle           | RIN               | 4                       | 1                   | Y                    | *ORB <sup>b</sup>                        |
| 416  | Apogee                                 | RAE               | 5                       | 1                   | Y                    | *ORB <sup>b</sup>                        |
| 417  | Perigee                                | RPE               | 5                       | 1                   | Y                    | *ORB <sup>b</sup>                        |
| 418  | Period of Orbit                        | RPD               | 7                       | 1                   | Y                    | *ORB <sup>b</sup>                        |
| 419  | Number of Satellites                   | RNR               | 2                       | 1                   | Y                    | *ORB <sup>b</sup>                        |
| RECEIVER EQUIPMENT (Maximum receiver locations allowed: 30) <sup>k</sup>     |  |                   |                         |                     |                      |  |
| 440  | Equipment Nomenclature                 | REQ               | 1,18                    | 10                  | Y                    | *EQR <sup>b</sup>                        |
| 442  | Aircraft Nautical Mile Value           | RNM               | 4                       | 1                   | N <sup>i</sup>       | *RAD <sup>b</sup>                        |
| 443  | Equipment Allocation Number            |                   | 7                       | 10                  | N                    |  |
| RECEIVER ANTENNA DATA (Maximum receiver locations allowed: 30) <sup>k</sup>  |  |                   |                         |                     |                      |  |
| 454  | Antenna Name                           | RAT               | 10                      | 10                  | Y                    | RAD                                      |
| 455  | Antenna Nomenclature                   | RAK               | 18                      | 10                  | Y                    | *EQR <sup>b</sup>                        |
| 456  | Antenna Structure Height               | RAG               | 3                       | 10                  | N                    | RAD,*SGN <sup>b</sup> ,*EGN <sup>b</sup> |
| 457  | Antenna Gain                           |                   | 4                       | 10                  | Y                    |  |
| 458  | Antenna Elevation                      |                   | 5                       | 10                  | Y                    |  |
| 459  | Antenna Feedpoint Height               | RAH               | 5                       | 10                  | Y                    | RAD                                      |
| 460  | Antenna Horizontal Beamwidth           | RBW               | 4                       | 10                  | Y                    | RAD,*EBW <sup>b</sup> ,*SBW <sup>b</sup> |
| 461  | Antenna Vertical Beamwidth             | RAZ,RAA           | 3                       | 10                  | N                    | RAZ,RAD                                  |
| 462  | Antenna Orientation                    |                   | 3 3,3<br>3,3-3          | 10                  | Y                    |  |
| 463  | Antenna Polarization                   |                   | RAP                     | 1                   | 10                   |  |
| SPACE SYSTEMS (Maximum receiver locations allowed: 30) <sup>k</sup>          |  |                   |                         |                     |                      |  |
| 470  | Space Station Noise Temperature        | SNT               | 4                       | 10                  | Y                    | *SNT <sup>b</sup>                        |
| 471  | Earth Station System Noise Temperature | RNT               | 4                       | 10                  | Y                    | *RNT <sup>b</sup>                        |
| 472  | Equivalent Satellite Link Noise        | ENT               | 4                       | 10                  | Y                    | *ENT <sup>b</sup>                        |

**Table A1 Summary of Data Item Specifications**

| SFAF Data Item Number               | Title  | Spectrum XXI Tags           | Maximum Input Lengths | Maximum Occurrences | To IRAC <sup>a</sup> | GMF Tags   |
|-------------------------------------|--|-----------------------------|-----------------------|---------------------|----------------------|--|
| 473                                 | Temperature<br>JSC Area Code                     |                             | 1                     | 1                   | N                    |  |
| <b>SUPPLEMENTARY DETAILS</b>        |  |                             |                       |                     |                      |  |
| 500                                 | IRAC Notes                                       | NTS                         | 4                     | 10                  | Y                    | NTS  |
| 501                                 | Notes free-text Comments                         | NOT                         | 35                    | 30                  | Y                    | *NTS <sup>b</sup>                                  |
| 502                                 | Description of Requirement                       | GEN                         | 1440                  | 1                   | N                    |  |
| 503                                 | Agency Free-text Comments                        | AGN                         | 35                    | 30                  | Y                    | *AGN <sup>b</sup>                                  |
| 504                                 | FAS Agenda or OUS&P Comments                     | FAS                         | 72                    | 5                   | Y                    | FAS  |
| 505                                 | NATO Pooled Frequency Code Number                |                             | 5                     | 1                   | N                    |  |
| 511                                 | Major Function Identifier                        | MFI                         | 30                    | 1                   | Y                    | *MFI <sup>b</sup>                                  |
| 512                                 | Intermediate Function Identifier                 | IFI                         | 30                    | 1                   | Y                    | *IFI <sup>b</sup>                                  |
| 513                                 | Detailed Function Identifier                     | DFI                         | 30                    | 5                   | Y                    | *DFI <sup>b</sup>                                  |
| 520                                 | Supplementary Details                            | SUP                         | 1080                  | 1                   | Y                    | SUP  |
| 530                                 | Authorized Areas                                 | XAR,RAR,ARB                 | 3,35                  | 30                  | Y                    | *ART,*ARR,<br>*ARB <sup>b</sup>                    |
| 531                                 | Authorized States                                | LST,LSR,LSB,<br>EST,ESR,ESB | 3,35                  | 6                   | Y                    | *LST,*LSR,<br>*LSB,*EST,<br>*ESR,*ESB <sup>b</sup> |
| <b>OTHER ASSIGNMENT IDENTIFIERS</b> |  |                             |                       |                     |                      |  |
| 701                                 | Frequency Action Officer                         |                             | 3                     | 1                   | Y                    | *AGN,FAO <sup>b</sup>                              |
| 702                                 | Control/Request Number                           |                             | 15                    | 1                   | Y                    | *AGN,CNO <sup>b</sup>                              |
| 704                                 | Type of Service                                  |                             | 1                     | 1                   | Y <sup>e</sup>       | *AGN,TOS <sup>b</sup>                              |
| 705                                 | Systems Identifier                               | SYS,SYA                     | 24,32                 | 1                   | Y                    | *SYS <sup>b</sup>                                  |
| 707                                 | USCINCPAC Complement/<br>FMSC Function Number    |                             | 8                     | 20                  | N                    |  |
| 710                                 | Host Country Docket Number                       |                             | 12                    | 10                  | N                    |  |
| 711                                 | Aeronautical Service Range<br>and Height         |                             | 6                     | 1                   | N                    |  |
| 715                                 | Transmitter FMSC MRFL<br>Number                  |                             | 14                    | 1                   | N                    |  |
| 716                                 | Usage Code                                       |                             | 1                     | 1                   | N                    |  |
| <b>ADDITIONAL INFORMATION</b>       |  |                             |                       |                     |                      |  |
| 801 <sup>f</sup>                    | Coordination Data/Remarks                        |                             | 60                    | 20                  | N                    |  |
| 803                                 | Requestor Data                                   | POC                         | 60                    | 1                   | N                    |  |
| 804                                 | Tuning Range/Tuning<br>Increments                |                             | 60                    | 30                  | N                    |  |
| 805 <sup>f</sup>                    | Date Response Required                           |                             | 8                     | 1                   | N                    |  |
| 806 <sup>f</sup>                    | Indication if Host Nominations<br>are Acceptable |                             | 60                    | 10                  | N                    |  |
| 807 <sup>f</sup>                    | Frequencies to be Deleted                        |                             | 60                    | 10                  | N                    |  |
| 901                                 | Record Status                                    |                             | 1                     | 1                   | N                    |  |
| 903                                 | Proposal Status                                  | CPS                         | 4                     | 20                  | N                    |  |
| 904                                 | Status Date                                      | STD                         | 8                     | 20                  | N                    |  |
| 905 <sup>g</sup>                    | Proposal Date Time Group                         |                             | 14                    | 1                   | N                    |  |
| 906 <sup>g</sup>                    | Originator                                       |                             | 66                    | 1                   | N                    |  |
| 907                                 | Validation Status                                |                             | 1                     | 1                   | N                    |  |
| 910                                 | Exercise Project                                 |                             | 20                    | 1                   | N                    |  |
| 911 <sup>j</sup>                    | Date of Last Transaction                         | DAT                         | 8                     | 1                   | N                    |  |

**Table A1 Summary of Data Item Specifications**

| <b>SFAF<br/>Data Item<br/>Number</b> | <b>Title</b>  | <b>Spectrum XXI<br/>Tags</b> | <b>Maximum<br/>Input<br/>Lengths</b> | <b>Maximum<br/>Occurrences</b> | <b>To<br/>IRAC<sup>a</sup></b> | <b>GMF<br/>Tags</b> |
|--------------------------------------|---|------------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------|
| 922 <sup>j</sup>                     | Participant Code  |                              | 6                                    | 20                             | N                              |                     |
| 924                                  | Data Source Indicator                                     |                              | 4                                    | 1                              | N                              |                     |
| 926 <sup>j</sup>                     | Semi-Bandwidth  |                              | 12                                   | 1                              | N                              |                     |
| 927 <sup>j</sup>                     | Date of Entry   |                              | 8                                    | 1                              | N                              |                     |
| 928 <sup>j</sup>                     | Date of Receipt   |                              | 8                                    | 1                              | N                              |                     |
| 950                                  | PC ID   | PCI                          | 10                                   | 1                              | N                              |                     |
| 952 <sup>j</sup>                     | IRAC Security Classification                              |                              | 1                                    | 1                              | Y                              | CLA                 |
| 953 <sup>j</sup>                     | IRAC Declassification Date                                |                              | 10                                   | 1                              | Y                              | CDD                 |
| 956                                  | Agency Action Number                                      | ACN                          | 10                                   | 1                              | Y                              | ACN                 |
| 957 <sup>j</sup>                     | Review Year   | RYP                          | 4                                    | 1                              | Y <sup>h</sup>                 | RYP                 |
| 958 <sup>j</sup>                     | Routine Agenda Item                                       | RTN                          | 1                                    | 1                              | Y                              | RTN                 |
| 959 <sup>j</sup>                     | Circuit Remarks   | REM                          | 40                                   | 30                             | N                              | REM                 |
| 963                                  | FCC File Number   | FLN                          | 16                                   | 1                              | Y <sup>h</sup>                 | *FLN <sup>b</sup>   |
| 964 <sup>j</sup>                     | Tx Aircraft Altitude                                      |                              | 3                                    | 10                             | N                              | XAD                 |
| 965 <sup>j</sup>                     | Rx Aircraft Altitude                                      |                              | 3                                    | 10                             | N                              | RAD                 |
| 982 <sup>i</sup>                     | JCEOI Line Number   |                              | 5                                    | 1                              | N                              |                     |
| 983 <sup>i</sup>                     | JCEOI Master Net List Name                                |                              | 16                                   | 1                              | N                              |                     |
| 984 <sup>i</sup>                     | Net Frequency Range                                       |                              | 11-11                                | 1                              | N                              |                     |
| 985 <sup>i</sup>                     | Joint Restricted Frequency List<br>(JRFL) Protection Code |                              | 1, 1/2                               | 1                              | N                              |                     |
| 986 <sup>i</sup>                     | Net Tactical Call Word                                    |                              | 15                                   | 1                              | N                              |                     |
| 987 <sup>i</sup>                     | Net Tactical Call Sign                                    |                              | 3                                    | 1                              | N                              |                     |
| 988 <sup>i</sup>                     | Net Tactical Air Designator<br>(TAD)                      |                              | 5                                    | 1                              | N                              |                     |
| 989 <sup>i</sup>                     | Net Color Word  |                              | 16                                   | 1                              | N                              |                     |
| 990 <sup>i</sup>                     | Net Color Number  |                              | 2                                    | 1                              | N                              |                     |
| 991 <sup>i</sup>                     | Net Restoral Priority                                     |                              | 3                                    | 1                              | N                              |                     |
| 992 <sup>i</sup>                     | Net Push Number   |                              | 3                                    | 1                              | N                              |                     |
| 993 <sup>i</sup>                     | Band Usage  |                              | 1                                    | 1                              | N                              |                     |
| 994 <sup>i</sup>                     | Check Sum   |                              | 1                                    | 1                              | N                              |                     |
| 995 <sup>i</sup>                     | COMSEC Keymat   |                              | 15                                   | 1                              | N                              |                     |
| 996 <sup>i</sup>                     | Circuit Type, Line Item, Group<br>Category                |                              | 8                                    | 1                              | N                              |                     |
| 997 <sup>i</sup>                     | JCEOI Special Net Instructions                            |                              | 63                                   | 1                              | N                              |                     |
| 998 <sup>i</sup>                     | Net Notes   |                              | 3                                    | 1                              | N                              |                     |
| 999 <sup>i</sup>                     | Guard Requirements  |                              | 20                                   | 50                             | N                              |                     |

**Table A1 Summary of Data Item Specifications**

| <b>SFAF<br/>Data Item<br/>Number</b> | <b>Title</b>  | <b>Spectrum XXI<br/>Tags</b> | <b>Maximum<br/>Input<br/>Lengths</b> | <b>Maximum<br/>Occurrences</b> | <b>To<br/>IRAC<sup>a</sup></b> | <b>GMF<br/>Tags</b> |
|--------------------------------------|---|------------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------|
| a                                    | Y = Yes, N = No, a number = the number of characters sent to NTIA (FAS of the IRAC).  |                              |                                      |                                |                                |                     |
| b                                    | This data item is stored in the GMF Circuit Remarks. Circuit Remarks are limited to 30 occurrences.   |                              |                                      |                                |                                |                     |
| c                                    | A special handling code in the second character of the security classification is sent to NTIA as FOI X   |                              |                                      |                                |                                |                     |
| d                                    | Army and NSA only.  |                              |                                      |                                |                                |                     |
| e                                    | Army only.  |                              |                                      |                                |                                |                     |
| f                                    | Not stored in the FRRS central computer facility (CCF) database.  |                              |                                      |                                |                                |                     |
| g                                    | For distributed computer facility (DCF) use only.   |                              |                                      |                                |                                |                     |
| h                                    | Not used by DoD.  |                              |                                      |                                |                                |                     |
| i                                    | Computer-generated by NTIA (IRAC).  |                              |                                      |                                |                                |                     |
| j                                    | Computer-generated by JSC.  |                              |                                      |                                |                                |                     |
| k                                    | A maximum of 30 receiver locations are allowed in a frequency assignment record. The number of occurrences in items 400 - 473 are related to the number of occurrences that are permitted at each receiver site. For example, only one item 400 is permitted at a site, while 10 equipment nomenclatures are permitted at any single receiver site. (In other items, the maximum number of occurrences relate to the number of occurrences permitted in a complete record.) |                              |                                      |                                |                                |                     |
| m                                    | If data sent to NTIA is different from the data entered, see SFAF data items 952 and 953.   |                              |                                      |                                |                                |                     |
| n                                    | *USA is a GMF output field used in Canadian records.  |                              |                                      |                                |                                |                     |

## ADMINISTRATIVE DATA

Administrative Data - Data items 005 through 007, 010, 020, and 102 through 108 provide data to initiate the processing of frequency assignments.

### **Security Classification.....005**

2,10 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: FOI (for any Special Handling Code listed below), (CLA, CDD if the same as sent to NTIA.)

**Description:** Data Item 005 has two parts. Part one contains a 2-letter designator representing the security classification of the record and the record special handling instructions. The second part of the item contains a 10-character field containing the record declassification instructions. The record declassification instructions must always be entered if the first character of the security classification is a “**C**,” “**S**,” or “**T**.”

### **Classification Codes - First Character**

**U** - UNCLASSIFIED      **C** - CONFIDENTIAL      **S** - SECRET      **T** - TOP SECRET

### **Special Handling Codes - Second Character**

A Special Handling Code is required in all UNCLASSIFIED frequency assignment records as well as in TOP SECRET, SECRET, or CONFIDENTIAL records to reflect the fact that if the classified data were removed from the record, the remaining UNCLASSIFIED data must still be protected in accordance with the applicable special handling code. Remember, this could apply in instances where SECRET or CONFIDENTIAL records are sent to NTIA as UNCLASSIFIED records for inclusion in the GMF automated database.

- A** - Approved for public release; distribution is unlimited (DoD Directive 5230.24).
- B** - Releasable to soil country and the North Atlantic Treaty Organization (NATO); otherwise, not releasable outside the US Government in accordance with (IAW) Section 552 (b)(1) of Title 5 of the US Code.
- E** - Not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- F** - Not releasable to foreign nationals and not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- H** - Releasable to soil country only; otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.

- J** - Contingency Assignment - The record contains unified commander comments only; not releasable to foreign nationals unless formally coordinated; otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code
- K** - Permanent assignment. Available for contingency use within the theater after coordination with and approval of the cognizant unified commander - releasable to soil nation; otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- N** - Releasable to NATO; otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- P** - Proprietary; otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.

The following special handling codes are used within TOP SECRET stand-alone databases and are not to be used within the FRRS worldwide SIPRNET database system:

- L** - Sensitive Compartmented Information (SCI); otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- Q** - Special Category (SPECAT); otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.
- R** - Special Access Required (SAR); otherwise, not releasable outside the US Government IAW Section 552 (b)(1) of Title 5 of the US Code.

### **Declassification Instructions**

For TOP SECRET, SECRET, or CONFIDENTIAL records, follow the security classification with a comma, and the appropriate declassification instruction, using one of the following formats:

- DEYYYYMMDD** - Declassify on: Enter **DE** followed by the year (YYYY), the month (MM) and the day of the month (DD). If the declassification date set at the time of the original classification action is to be extended beyond 10 years, a data entry is required in Data Item 014.
- DEOADR** - Declassify on: Originating Agency Determination Required. If DEOADR is used in a record, an entry is required in Data Item 014.

#### **Examples:**

005. UE  
005. CB,DE20051130  
005. SE,DEOADR



**DEXnnnnnnnn** - Declassify on: Exempt from automatic declassification. The letters "nnnnnnnn" indicate one or more reasons (see list below) why TOP SECRET, SECRET, and CONFIDENTIAL records cannot be automatically declassified. Enter **DEX** followed by one to seven numbers, in numerical order, applicable to the appropriate reason(s) listed below.

- 1- Reveal an intelligence source, method, or activity, or a cryptologic system or activity.
- 2- Reveal information that would assist in the development or use of weapons of mass destruction.
- 3- Reveal information that would impair the development or use of technology within a US weapons system.
- 4- Reveal US military plans or national security emergency preparedness plans.
- 5- Reveal foreign government information.
- 6- Damage relations between the US and a foreign government, reveal a CONFIDENTIAL source, or seriously undermine diplomatic activities that are reasonably expected to be ongoing for a period greater than ten years.
- 7- Impair the ability of responsible US government officials to protect the president, the vice president, and other individuals for whom protection services, in the interest of national security, are authorized.
- 8- Violate a statute, treaty or international agreement.

**Examples:**

005. SH,DEX1 (one reason for exemption from automatic declassification)

005. CJ,DEX134 (three reasons for exemption from automatic declassification)

**DE25Xn** - Declassify on: Permanently valuable information (as defined by the national archivist) is exempt from automatic declassification 25 years beyond the original classification date. (The letter "n" indicates why a TOP SECRET, SECRET, or CONFIDENTIAL record cannot be automatically declassified 25 years after the original classification date.) Enter **DE25X** followed by a number "n" from the applicable paragraph below. Note: When the value of "n" is greater than "1", an entry is required in Data Item 016

- 1- Reveal the identity of a CONFIDENTIAL human source, or reveal information about the application of an intelligence source or method, or reveal the identity of a human intelligence source when the unauthorized disclosure of that source would clearly and demonstrably damage the national security interests of the US.
- 2- Reveal information that would assist in the development or use of weapons of mass destruction.
- 3- Reveal information that would impair US cryptologic systems or activities.
- 4- Reveal information that would impair the application of state-of-the-art technology within a US weapon system.
- 5- Reveal actual US military war plans that remain in effect.
- 6- Reveal information that would seriously and demonstrably impair relations between the US and a foreign government, or seriously and demonstrably undermine ongoing diplomatic activities of the US.
- 7- Reveal information that would clearly and demonstrably impair the current ability of US Government officials to protect the president, vice president, and other officials for whom protection services, in the interest of national security, are authorized.
- 8- Reveal information that would seriously and demonstrably impair current national security emergency preparedness plans.
- 9- Reveal information that would violate a statute, treaty, or international agreement.

**Example:**

005. SH,DE25X5

**Input Requirement:** Data Item 005 is always required. Enter the overall security classification of the frequency proposal or assignment and the appropriate special handling code. When applicable, each UNCLASSIFIED frequency assignment must have a special handling code so it can be identified as a record that has been separated from a CONFIDENTIAL group defined in the *DoD Frequency Assignment Security Classification Guide*.<sup>1)</sup> As a security precaution, this

data item cannot be deleted from a record and can only be changed by use of Data Item 006.

## **Security Classification Modification.....006**

2,10 characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: See Data Item 005.

**Description:** Data Item 006 specifies the **new** security classification and/or special handling code that is to be assigned to an existing record and/or a change to the declassification instructions.

**Input Requirement:** If the record's security classification, special handling code, or declassification instructions are to be changed, enter the new security classification data and make appropriate classification code changes to the data items that are affected. (Data Item 006 must always be preceded by Data Item 005 to show the record's **existing** security classification.)

### **Examples:**

006. UE

006. CB,DEOADR

006. SB,DE19980715

## **Missing Data Indicator.....007**

1 character - 1 occurrence

Submitted to IRAC: yes            GMF tag: MSD

**Description:** A "Z" in this data item indicates that SECRET data is missing from the automated record sent to NTIA. (The SECRET record is separately submitted to NTIA as a paper document).

**Input Requirement:** Not used by DoD. Non-DoD organizations enter the letter Z to indicate that this record would be classified SECRET if all data submitted to NTIA were provided.

### **Example:**

007. Z

## **Type of Action .....010**

1 character - 1 occurrence

Submitted to IRAC: yes            GMF tag: TYP

**Description:** Data Item 010 indicates the type of action required to process the frequency assignment transaction.

**Input Requirement:** Data Item 010 is always required and must contain one of the type of action codes described below.

**A - Administrative Modification.** This action is similar to a Modification (M) action; however, it is used to make three specific types of changes:

- (1) Changes due to typographical errors in the authorizing document
- (2) Changes in administrative data items (e.g., 200 series)
- (3) Mass changes required for compliance with international, national, or DoD rules and regulations.

The review date (Data Item 142) will not be automatically changed if a Administrative Modification action is used.

**D - Delete.** Used to remove an existing record from a database.

**E - Expired.** A computer-generated code used by NTIA to remove an expired record from the GMF and its matching record from the FRRS.

**F - Notification.** Used to notify the activation of a frequency for a particular station or stations under the authority of a group assignment. Data Item 105 must also be specified.

**M - Modification.** Used to add, substitute, or remove one or more data items in an existing record.

**N - New.** Used to create a new record and place it in the appropriate online database.

**R - Renewal.** Used to extend the expiration date of a temporary assignment. Other data may be changed as necessary.

**Example:**

010. M

**Derivative Classification Authority .....014**

8,60\* characters - 10 occurrences

Submitted to IRAC: yes          GMF tag: \*CLF

**Description:** This data item indicates the date, title, and publishing organization of the source document from which one or more TOP SECRET, SECRET, or CONFIDENTIAL data entries in the record were derived.

**Input Requirement:** This data entry is required when the DECLASSIFICATION INSTRUCTIONS in Data Item 005 contain “DEOADR” or when the classification of data is “Derived From” other sources such as security classification guides, J-12 documents, or operations plans. The data entry will be the source date (formatted YYYYMMDD (year-month-day)), a comma followed by the title and the publishing organization. (An entry in Data Item 018 is not required when Data Item 014 is used.) Whenever all of the multiple sources are entered, the most restrictive declassification instruction from all of the sources used must be entered in the second part of Data Item 005.

### Examples:

014. 19930815, B-1B SCG, OC-ALC/LAB (a single example)  
014. 19921122, OPLAN 2104, CINCPAC (a two document example)  
014/2. 19870614, J-12 5502/4, USAFFMA

When the original classification authority extends a declassification date in Data Item 005 beyond the initial ten-year period, this field may be used to identify the date the declassification date was extended, the individual, and individual's agency or organization that approved the extension. This entry is not necessary when the classification is derived from another source, and the source is identified in accordance with the subparagraph above.

**Example:**

014. 20051105,CDR CINCPAC

\* Data in records where SFAF Data Item 144 equals "Y" cannot exceed 35 characters until NTIA lengthens the GMF field.

**Unclassified Data Fields .....015**

72\* characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: \*CLU

**Description:** This data item alerts the reader of a printed or automated displayed record that there are instances when UNCLASSIFIED data entries are not preceded by the entry (U) in a CONFIDENTIAL, SECRET, or TOP SECRET assignment.

**Input Requirement:** This data item is required for all classified records. Note, even though all data entries in a record are classified, there are UNCLASSIFIED data entries, computer-generated by the JSC.

**Example A:** (for use in CONFIDENTIAL and SECRET FRRS records)  
015. DATA ENTRIES NOT PRECEDED WITH (C) OR (S) ARE UNCLASSIFIED

**Example B:** (for use only in TOP SECRET stand-alone operations)  
015. DATA ENTRIES NOT PRECEDED WITH (C), (S) OR (T) ARE UNCLASSIFIED

\* Data in records where SFAF Data Item 144 equals "Y" cannot exceed 35 characters until NTIA lengthens the GMF field. The current GMF data entry is automatically converted from the above SFAF data entry to the standard GMF entry: REMnn ALL DATA FIELDS NOT LISTED IN \*CLD

**Extended Declassification Date .....016**

35 characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: \*CDE

**Description:** Data Item 016 contains a declassification date (in the format YYYYMMDD) that is beyond 25 years from the date of original classification.

**Input Requirement:** Data Item 016 is required when Data Item 005 contains DE25Xn, where the value of "n" is greater than 1.

**Example:**

016. 20351231

(for Dec 31, 2035)

In rare instances, a textual entry may be present.

**Downgrading Instructions.....017**

1,8 characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: \*AGN,DNG-

**Description:** This data entry is a two-part field. The entry contains the new classification level ("C" for Confidential or "S" for Secret), followed by a comma and the date (YYYYMMDD) the record is to be downgraded from SECRET to CONFIDENTIAL or downgraded from TOP SECRET to either SECRET or CONFIDENTIAL.

**Input Requirement:** Data Item 017 is required whenever there are downgrading instructions contained in the source from which the classified data in the record was derived.

**Example:**

017. C,19991105

**Original Classification Authority.....018**

60\* characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: \*CLA

**Description:** This data item indicates the title and organization of the individual who determined the original classification of the classified data in the assignment record.

**Input Requirement:** Required when classification information is **not** derived from another document such as a classification guide, J-12 paper, or operations plan (see Data Item 014). Enter the title and organization of the original classification authority.

**Examples:**

018. CDR,AMC  
018. CDR,AFMC  
018. CDR,7FLT

If the identification of the original classification authority reveals additional classified information, an entry of "018. EXCLUDED, 1.7.B" is permitted.

\* Data in records where SFAF Data Item 144 equals "Y" cannot exceed 35 characters until NTIA lengthens the GMF field.

**Reason for Classification .....019**

35 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: \*CLR

**Description:** This data item contains a coded data entry indicating the reasons the original classification authority determined that the data in this assignment was classified.

**Input Requirement** Required when classification information is **not** derived from another document such as classification guides, J-12 documents, or operations plans. Enter the reason for the classification from the list provided below. The data entry will be **1.5** followed by one or more letters in alphabetical order applicable to the appropriate paragraphs below.

**A** - Military plans, weapons systems, or operations

**B** - Foreign government information

**C** - Intelligence activities (including special activities), intelligence sources or methods, or cryptology

**D** - Foreign relations or foreign activities of the US, including confidential sources

**E** - Scientific, technological, or economic matters relating to the national security

**F** - US Government programs for safeguarding nuclear materials or facilities

**G** - Vulnerabilities or capabilities of systems, installations, projects or plans relating to national security.

**Examples:**

019. 1.5A

019. 1.5EG

In rare instances, a textual entry may be present such as "FOREIGN RELATIONS."

**Example:**

019. FOREIGN RELATIONS

**Proposal References .....020**

64 characters - 10 occurrences<sup>2</sup>

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 020 is the originating requester's message date-time-group (DTG), E-mail or letter reference.

**Input Requirement:** (Optional). Enter the requester's message DTG with a Plain Language Address Designator (PLAD) or other reference. This information will appear in FRRS transaction files only; it will not appear in the GMF or FRRS central databases.

**Example:**

020. NFCWUS 041325Z DEC 87

**Agency Serial Number .....102**

10 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: SER

**Description:** Data Item 102 is the primary FRRS record identifier. It is unique and cannot be changed.

**Input Requirement:** The agency serial number is required for all types of actions that will be entered into the FRRS central database. The serial number is formatted as AAAAYYNNNN. The agency abbreviation (identifier) for the assignment (as defined in the *NTIA Manual* or as listed below) is entered in characters 1-4 (AAAA). When AAAA is less than four characters, trailing spaces are required; the next two numbers (YY) identify the calendar year in which the assignment initially is processed; the following four numbers (NNNN) are specified to uniquely identify the assignment. The following are agency serial number identifiers for MILDEP/JFP frequency assignments:

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<sup>2</sup>This data item is reserved for use by MILDEP, CINC, and Agency frequency management offices or subordinate organizations when its use has been delegated to lower levels.



| IDENTIFIER | ORGANIZATION   |
|------------|--|
| AF         | Air Force  |
| AR         | Army   |
| CEN        | USCINCCENT - Commander-in-Chief, Central               |
| EUR        | USCINCEUR - Commander-in-Chief, Europe                 |
| J          | DoD  |
| LA         | CINCUSJFCOM - Commander-in-Chief, Joint Forces Command |
| N          | Navy   |
| NS         | NSA  |
| PAC        | USCINCPAC - Commander-in-Chief, Pacific                |
| SOU        | USCINCSO - Commander-in-Chief, Southern Command        |

**Example:**

102. N 775163

**Interdepartment Radio Advisory Committee Docket Number ..... 103**

8 characters - 3 occurrences

Submitted to IRAC: no                      GMF tag: AUS

**Description:** Data Item 103 is a reference number assigned by the IRAC to frequency applications submitted to the FAS. Automated databases provide three IRAC docket numbers in the following order:

1. Docket number for current modification
2. Original docket number
3. Docket number for last modification or renewal.

**Input Requirement:** Data Item 103 is an NTIA computer-generated GMF output data item.

**List Serial Number .... 105**

10 characters - 1 occurrence<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: LSR

**Description:** Data Item 105 is the agency list serial number of a GMF record representing a group or area assignment. It brings into use, by a particular station or stations, a frequency authorized under a group assignment or authorized for communications with nongovernment stations.

**Input Requirement:** Only enter the List Serial Number of a GMF group or area assignment if a Notification (F) action is used.

**Example:**

105. N 765530

**Serial Replaced, Delete Date..... 106**

10,8 characters - 1 occurrence<sup>2</sup>

Submitted to IRAC: yes GMF tag: SRS, SEX

**Description:** A record may be deleted from the GMF using Data Item 106 while entering a New or Notification type of action. This is a two-part data item. The first part of the data item is the serial number of the GMF record being deleted and the second part of the data item is the date the record will be automatically deleted from the GMF. This data item is not stored in the database.

**Input Requirement:** If an existing GMF assignment record is to be deleted using a New action or a Notification action, enter the agency Serial Number of the existing assignment followed by the desired date of deletion as YYYYMMDD. If multiple records are to be deleted based on a single new assignment, **one** record can be deleted using the Serial Replaced, Delete Date data entry and the others can be deleted using separate Delete actions.

**Example:**

106. N 820512,19981005

**Authorization Date ..... 107**

8 characters - 1 occurrence

Submitted to IRAC: no GMF tag: AUD

**Description:** The date (YYYYMMDD) on which a GMF assignment was originally authorized.

**Input Requirement:** This is an NTIA computer-generated GMF output data item only.

**Example:**

107. 19971105

**Docket Numbers of Older Authorizations ..... 108**

35 characters - 30 occurrences<sup>2</sup>

Submitted to IRAC: yes NTIA tag: \*DOC

**Description:** Data Item 108 provides a history of an assignment's previous GMF authorizations. It allows New or Notification type of actions to retain all previously assigned docket numbers, authorization dates, and agency serial numbers.

**Input Requirement:** This data item is optional. Enter up to 35 alphanumeric characters for Docket Numbers of Older Authorizations to be retained in a New action

or a Notification action as applicable. Multiple docket entries are allowed within a 35-character line by separating them with a comma. Authorization dates and serial numbers may also be entered along with the docket numbers within a 35-character line by separating them with commas.

**Examples:**

|                             |                                   |
|-----------------------------|-----------------------------------|
| 108. I84729                 | - Docket only                     |
| 108. I73621,195704          | - Docket and date                 |
| 108. I67543,195510,N 550142 | - Docket, date, and serial number |
| 108. I89432,I6723419        | - Two dockets                     |
| 108. I6943591,AF 690431     | - Docket and serial number        |

## EMISSION CHARACTERISTICS

Data items 110 through 118 contain the command process of designating a required frequency, and the relationship of the frequency with controlling factors such as station class, emission designators, and power.

### Frequency(ies).....110

11 or 11-11 or 11(11) characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: FRQ or \*FRB

**Description:** Data Item 110 is the frequency band or discrete frequency assigned to the unit and/or required for the equipment described in the assignment. A reference frequency, if included, is the assignment of a suppressed or reduced carrier sideband.

**Input Requirement:** This data item is always required. Enter the discrete frequency or frequency band assigned to the unit and/or required for the equipment described in the assignment. A reference frequency, if included in parenthesis, is the assignment of a suppressed or reduced carrier sideband. For a frequency band assignment, enter the lower frequency and the upper frequency (separated by a dash) with the frequency unit indicator preceding the lower frequency. An upper frequency range unit indicator is required if the units of the upper frequency range is different from the units of the lower frequency range, e.g. 110. K2000-M35. For certain operations, the assignment of a range of frequencies (frequency band) may be required in lieu of a specific operating frequency. These types of assignments shall only be requested when specific frequencies will not satisfy the requirements. Frequency band assignments are normally authorized for the following:

- a. Transmitters which automatically sweep through all frequencies in a band.
- b. Radiosonde transmitters operating in either of the bands: M400.15 - 406.0 or M1670 - 1700.
- c. Frequency-agile radar beacons (racon) operating in either of the bands: M2900 - 3100 or M9300 - 9500.

- d. Transmitters that use automatic frequency selection based on changing propagation conditions along the transmission path.
- e. Transmitters that automatically pause at 15 or more specific operating frequencies within a band.
- f. Operations that require the use of 15 or more specific operating frequencies within a band for Research, Development, Test and Evaluation (RDTE) purposes.
- g. Operations that involve a multitude of mobile radiolocation or radionavigation transmitters. Whenever possible, at the option of the applicant, operational frequencies may be recorded in Data Item 503.
- h. Tactical and/or training assignments (above 30 Megahertz (MHz)) that require the use of 15 or more specific operating frequencies within a band.
- i. Operations devoted exclusively to Electronic Warfare (EW), Electronic Countermeasures (ECM), and/or Electronic Counter-Countermeasures (ECCM). For sideband operations, enter the reference frequency in parentheses after the assigned frequency.

Precede the frequency value with unit indicators as follows:

- K** - if frequency is less than 30 MHz
- M** - if frequency is at least 30 MHz, but less than 100 GHz
- G** - if frequency is at least 100 GHz, but less than 3 THz
- T** - if frequency is 3 THz or greater.

Insert a decimal point only if there is a significant digit to the right of the decimal point.

**Examples:**

- 110. K17034
- 110. K6737.5(6736)
- 110. K2000-M30

For frequency band(s) that are to be excluded from a given frequency band, enter the excluded bands in Data Item 111.

**Example:**

- 110. M13250-15700
- 111. M14770-14930

**Special Consideration for Processing Frequency Entries**

Frequency(ies), frequency bands, or reference frequencies listed in FRRS records cannot be changed. Frequency data is required (as part of a computer triple check of

frequency (Data Item 110), record security classification (Data Item 005), and record serial number (Data Item 102)) to ensure that the correct record is being modified. Failure to enter the complete frequency, upper frequency limit, or reference frequency (Data Item 110) when using a Modification action is a frequent mistake that is overlooked during computer processing; **however, mistakes made in entering the security classification of Data Item 110 are not overlooked during computer processing.** The security classification of Data Item 110 is processed the same way as a data item being modified using a Modification action. For example, a modification input of **110. M9345** would change a record containing **110. (C) M9345-9465** to read **110. M9345-9465**. In this example, the frequency data (M9345-9465) remained unchanged, but the classification of the frequency data was **declassified from (C) to (U)**.

## **Excluded Frequency Band .....111**

23 characters - 30 occurrences

Submitted to IRAC: yes                      GMF tag: \*FBE

**Description:** Data Item 111 is used in conjunction with a frequency band assignment to designate portions of the band excluded from the assignment.

**Requirement:** If a portion of a frequency band entered in Data Item 110 is to be excluded, enter the frequency band(s) to be excluded (in ascending order). An upper frequency range unit indicator is required if the unit of the upper frequency range is different from the unit of the lower frequency range.

### **Example:**

111. M960-1770

111/2. M2200-2400

## **Frequency Separation Criteria .....112**

35 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 112 identifies the required frequency separation between the different radio sets operated at one transmitter or receiver location.

**Input Requirement:** Data Item 112 is required for USCINCEUR and USCINCCENT assignments. It is optional for all others. Enter the required frequency separation ( $\Delta$ ), in MHz, between the different radio sets operated at one location.

- 0.5 MHZ** - For a transmitter power below 24.8 dBW (300 watts), enter 0.5 MHZ
- 2 MHZ** - For a transmitter power above 24.8 dBW (300 watts), enter 2 MHZ
- 2.0 - 9.9 MHZ** - For an exceptionally high transmitter powers, enter values between 2.0 MHz and 9.9 MHz.

If radio sets have two or more power stages, enter the dBW value and )F for each power stage. Note: This data is required in order to avoid desensitizing the receivers if two or more UHF radio sets are operated at one location simultaneously, e.g., at a tower. This data also is required to establish the prerequisites for an interference-free radio communication.

If, in radio relay frequency requests, a minimum frequency separation between a number of transmitters or between a transmitter and a receiver must be observed, these separation frequencies are to be entered. Enter the value in MHz. Use the following abbreviations and separate them with slashes:

**TX** - Transmitter

**RX** - Receiver

**Examples:**

112. 0.5 MHZ

112. 2.0 MHZ

112. TX/TX40MHZ/TX/RX100MHZ

**Station Class .....113**

4 characters - 20 occurrences

Submitted to IRAC: yes      GMF tag: STC

**Description:** Data Item 113 identifies the functional use of the assigned frequency at a particular transmitting station. See Annex A to this appendix for a list of acceptable station class symbols and their definitions. The suffix *R* is included if a station is used primarily as a repeater and operates in the bands 29.89-50 (exclusive Government use), 138-144, 148-148.9, 150.05-150.8, 162-174, and 406.1-420 MHz.

**Input Requirement:** Enter one or more standard station class symbol(s). (Data items 113, 114, 115 and (116 for Europe only) are interrelated, and an entry in any of the three data items must be accompanied by a corresponding entry in the other data items.)

**Example:**

113. FX

113/2. FX

## **Emission Designator ..... 114**

11 characters - 20 occurrences

Submitted to IRAC: yes      GMF tag: EMS

**Description:** Data Item 114 identifies the necessary bandwidth and emission classification symbols. The bandwidth can be determined by using formulas shown in the ITU Radio Regulations, CCIR Recommendations, or the NTIA Manual. Emission classification symbols consist of the three required symbols and the two optional symbols shown in Tables A-B-1 and A-B-2 in Annex B to this appendix.

**Input Requirement:** Enter one or more emission designator(s) containing the necessary bandwidth and the emission classification symbols. Enter the necessary bandwidth using the first four characters (three digits and a unit designator letter are required), with the unit designator in the position the decimal would normally occupy. Use:

**H** - If the value is less than 1000 Hz

**K** - 1 kHz to values less than 1000 kHz

**M** - 1 MHz to values less than 1000 MHz

**G** - 1 GHz or greater.

A doppler shift shall not be included in the frequency tolerance or bandwidth of emission; however, when a doppler shift is significant, it should be reported in Data Item 520.

### **Examples:**

- a. For a frequency assignment with a single emission designator, enter :  
114. 3K00J3E

- b. Similarly, for a frequency assignment with two emission designators, enter:

114. 1K24F1B

114/2. 3K00J7B

- c. If the same emission is to be used for two different station classes, enter the emissions twice:

114. 100H00F1B

114/2. 100H00F1B

- d. To enter multiple emission designators, enter them on subsequent lines as shown below:

114. 3K00J3E

114/2. 3K00J1D

114/3. 1K10F1B  
114/4. 100H00A1A  
114/5. 3K00J3E  
114/6. 100H00A1A

- e. To change the third emission designator in a record containing three or more emissions, enter:

114/3. 1K24F1B

- f. If the third emission designator is to be deleted, the corresponding entries in data items 113/3 (Station Class) and 115/3 (Power), 116/3 (Power Type) must also be deleted. For example:

113/3. \$  
114/3. \$  
115/3. \$  
116/3. \$

(For Europe only)

## **Transmitter Power .....115**

9 characters - 20 occurrences

Submitted to IRAC: yes      GMF tag: PWR

**Description:** Data Item 115 identifies the maximum transmitter power output authorized to be used.

**Input Requirement:** Enter one or more power data entries. Enter (1) carrier power (pZ) for A3E sound broadcasting in the broadcasting service, (2) mean power (pY) for other amplitude modulated emissions using unkeyed full carrier, and for all frequency modulated emissions, and (3) peak envelope power (pX) for all emission designators other than those referred to in (1) and (2) above, including C3F television (video only). Express the power to a maximum of five decimal places and precede the entry with the unit designator as follows:

- W** - If power is less than 1000 watts  
**K** - If power is at least 1 kW but less than 1000 kW  
**M** - If power is at least 1 MW but less than 1000 MW  
**G** - If power is 1 GW or greater.

**Example:**

115. W0.5  
115/2. K1.5



## **Power Type .....116**

1 character - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 116 describes the power type code for either carrier, mean, or peak envelope power emitted. The power type code will depend on the type of emission of the transmitter equipment.

**Input Requirements:** Data Item 116 is required for USCINCEUR and USCINCCENT assignments. It is optional for all others. Enter the power type code as defined below. The number of occurrences should match the number of occurrences in Data Item 115. The types of power codes are listed below:

### **C - Carrier Power**

Use this for "N0N" and for "A3E" sound broadcasting service (Station Class "BC").

### **M - Mean Power**

(For all A/A & A/G/A). Use this for most AM emissions using unkeyed full carrier and all frequency modulated emissions. Typical emissions include A2A, A2B, A3C, A3E, A3F, A7B, AXX, F1B, F1C, F2B, F3E, F3F, F7B, FXX, H2A, H3E, and H7B.

### **P - Peak Envelope Power**

Use this for all pulsed equipment, C3F Television, and the following classes: A1A, A1B, A7B, B7B, B8C, B8E, BXX, C3F, G3E, J2B, J3E, J7B, JXX, K1B, K2B, K3E, K3F, L2B, M2B, M3E, P0N, PXX, R2B and R3C.

#### **Example:**

116. P

116/2. P

## **Effective Radiated Power .....117**

6 characters - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** This is the power radiated from the transmitter antenna. It is the sum of the power supplied to the antenna and the gain of the antenna, expressed in dBm.

**Input Requirements:** Data Item 117 is filled in some Federal Communications Commission (FCC) and ITU records and is computer-generated by the JSC in other instances. The Effective Radiated Power (ERP) is entered in dBm.

#### **Example:**

117. 40

## **Power/ERP Augmentation.....118**

1 character - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** This is a coded data entry that is used to indicate when either Data Item 115 (Power) or Data Item 117 (ERP) is computer-generated.

**Input Requirement:** This is a JSC computer-generated output data item. One of the following codes was used:

**P**                      - power field (Data Item 115) computer-generated

**E**                      - ERP field (Data Item 117) computer-generated

**>blank=**           - neither field was computer-generated

**Example:**

118. P

## **TIME/DATE INFORMATION**

Data items in this section contain data related to implementation of the assignment, time period when frequency is to be used, expiration/review data, indicators for further processing, registration through international channels, and identifiers of trunk service and/or joint assignment use.

## **Time .....130**

4 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: TME

**Description:** Data Item 130 describes the period of time when the frequency will be either guarded (monitored) or used for transmission. The period indicated is not a limitation or a restriction, but rather the period when the frequency must be available to satisfy its operational requirement. The data entered shall indicate (1) whether the frequency is required occasionally or on a regular basis, and (2) whether it is required only during the normal workweek (between 0600 and 1800, Monday through Friday) or for additional periods of time.

**Input Requirement:** This data item is required on regular assignments using frequency bands 29.89-50, 138-144, 148-149.90, 150.05-150.80, 162-174, and 406.10-420 MHz, except those for experimental stations and those with IRAC Notes (Data Item 500) S321 and S322. For all other bands at 29890 kHz and above, this data item is required for assignments with US, USA, or USP in Data Item 300 (transmitter State/Country). Use the appropriate number as follows:

**1**    - Regular, not limited to workweek

- 2 - Regular, workweek
- 3 - Occasional, not limited to workweek
- 4 - Occasional, workweek.

For stations in the fixed service below 29890 kHz, the above number will be followed by one of the following symbols to indicate the time of availability on a daily basis:

**HX** - For stations operating intermittently throughout the 24-hour day or for circuits with no specific working hours

**HN** - Night service

**HJ** - Day service

**H24** - Continuous 24-hour service

**HT** - For transition period service.

**Examples:**

130. 2

130. 1H24

**Percent Time .....131**

2 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 131 describes the percentage of time the transmitter equipment is in use during the scheduled hours of operation.

**Input Requirement:** Data Item 131 is required for USCINCEUR Germany (GE) assignments. It is optional for all others. Enter the percentage of use during the scheduled hours of operation.

**Example:**

131. 50

**Required Date.....140**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 140 is the date a new assignment or modification to an assignment is to be operational.

**Input Requirement:** Enter the year, month, and day (YYYYMMDD) the new assignment, or modification to an existing assignment, is required by the operating unit. For temporary or exercise proposals, enter the date frequencies will first be used.

**Example:**

140. 19990101

**Expiration Date.....141**

8 Characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: EXD

**Description:** Data Item 141 is the date when a temporary assignment is to expire. Temporary assignments are not to exceed five years. This data item is blank when Data Item 142 contains data.

**Input Requirement:** If the assignment is for less than five years, enter the year, month, and day (YYYYMMDD) the requirement for use of the assignment will end. This data item is used in conjunction with Data Item 140 to specify the period of time an assignment will be used. For example, a proposal for an exercise or test from 7 September 1990 through 21 September 1990 would contain the entries **140. 19900907** and **141. 19900921**. Note: Assignments will be automatically canceled on their expiration date and deleted from the DoD central database. If an assignment is being changed from a temporary assignment to an assignment with a review date, then Data Item 141 must be deleted, i.e., **141. \$**.

**Example:**

141. 20020622

**Review Date.....142**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 142 is the date by which the assignment is to be reviewed according to the FRRS review program. If records are processed to IRAC, the review date will be regenerated based on the FAS meeting date plus five years for all assignments except AAG/MAG assignments for which ten years are added to the FAS meeting date.

**Input Requirement:** If Data Item 141 is blank or is being deleted, and if Data Item 142 is not entered by the assignor, Data Item 142 will be computer-generated by the JSC, based upon the data entered in Data Items 102, 143 and 958. Enter the year, month,

and day (YYYYMMDD) if the desired review date is less than five years or less than 10 years if the record is a European Command (EUCOM), Aeronautical Advisory Group (AAG) or Military Advisory Group (MAG) assignment. (If Data Item 141 contains an expiration date, leave the review date blank.)

**Example:**

142. 20020331

**Revision Date .....143**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: RVD

**Description:** The date ( YYYYMMDD) on which the GMF frequency assignment was initially approved or most recently revised.

**Input Requirement:** Data Item 143 is an NTIA computer-generated GMF output data item.

**Example:**

143. 19960131

**Record Indicator .....144**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 144 indicates whether or not the assignment is to be processed to IRAC for approval.

**Input Requirement:** The record indicator is required on all DoD transactions. Use the appropriate code listed below:

**Y** - Assignment record is to be processed through IRAC.

**U** - Assignment record is inside the US&P and is **not** to be processed through IRAC.

**O** - Assignment record is OUS&P and is **not** to be processed through IRAC.

**N** - An existing IRAC assignment contains Data Item **144. Y**, but this transaction is **not** to be processed through IRAC. The data being changed will not be stored in the GMF record.

Note: FRRS records that contain Data Item 144 equal to O or U **cannot** be changed to Data Item 144 equal to Y. A new transaction must be submitted.

**Example:**

144. Y

**ITU BR Registration .....145**

1,20 characters - 1 occurrence<sup>2</sup>

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 145 indicates the action taken, or to be taken, to register an assignment with the International Telecommunication Union (ITU) Radiocommunication Bureau (BR).

**Input Requirement:** Data Item 145 indicates the status of the assignment's registration with the ITU BR. Enter the appropriate indicator from the following list:

- R** - Notified and registered by BR
- U** - Notified to BR but negative decision
- I** - Registration with BR on an insistence basis
- O** - Not notified to BR
- P** - Pending notification to BR
- M** - Registered with BR but needs to be modified
- Y** - BR registration required.

If amplifying comments are to be included, enter a comma following the indicator and then the comments. If a registration date is to be included in the comments, enter the date (YYYYMMDD) first, followed by a comma and any other information.

**Example:**

145. R,19690527,2A

**DCS Trunk ID .....146**

6 characters - 20 occurrences<sup>2</sup>

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 146 is the Defense Communications System (DCS) trunk identifier assigned by DISA. See Chapter 66 of DISAC 310-65-1.

**Input Requirement:** Enter the DCS trunk identifier when assigned by DISA.

**Example:**

146. 45CS01

146/2. 45US02

**Joint Agencies .....147**

4 characters - 20 occurrences<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: \*JNT

**Description:** Data Item 147 identifies a joint assignment used by two or more agencies.

**Input Requirement:** Data Item 147 is required when Data Item 200 equals JNTSVC. For a joint application, enter the appropriate abbreviation of the joint agencies. Use the

abbreviations as shown in Annex G of the *NTIA Manual*. Enter the agency identified in Data Item 102 as the first joint agency. Enter H for unidentified agencies in non-IRAC assignments.

**Example A:**

147. AF (USAF and Federal Aviation Administration (FAA) joint assignment)  
147/2. FAA

**Example B:**

147. H (Entry for an unidentified agency)

**Coordination Indicator.....151**

1 character - 1 occurrence<sup>2</sup>

Submitted to IRAC: yes      GMF tag: ICI

**Description:** Data Item 151 indicates whether the IRAC is to coordinate the application with the Canadian Government, the Mexican Government, or both. It is also used for EUCOM assignments coordinated with NATO or host nations, or both.

**Input Requirement:** For assignments near US borders, enter one of the following codes:

- C** - Coordinated with Canada
- M** - Coordinated with Mexico
- B** - Coordinated with both Canada and Mexico

For EUCOM and Atlantic Command (LANTCOM) assignments, enter one of the following codes:

- M** - Coordinated with NATO for inclusion in the Master Radio Frequency List (MRFL)
- H** - Coordinated with Host Nation
- B** - Coordinated with both NATO and Host Nation

**Example:**

151. C

The coordination indicator is also used to identify the US Government coordination channels for those Canadian assignments along the US/Canada border that have been included in the GMF for EMC analysis purposes:

- D** - Coordinated through NTIA with FAS member agencies
- F** - Coordinated through the FAA
- J** - Coordinated through the DoD's Joint Chiefs of Staff (JCS)
- U** - No indication of coordination.

**Coordination Data.....152**

1,35 characters - 30 occurrences<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: \*CAN and/or \*MEX

**Description:** Data Item 152 consists of comments previously coordinated by the FAS Secretary with Canada and/or Mexico. This is a two-part data item: the first part identifies the country and the second part identifies the comment from that country.

**Input Requirement:** For new assignments replacing existing assignments (serial replaced actions), enter comments as previously coordinated (by the FAS Secretary) with Canada (C) or Mexico (M). Comments for other new assignments will be entered by the NTIA FAS Secretary when coordination comments are received from Canada or Mexico.

**Example:**

|                                |                                       |
|--------------------------------|---------------------------------------|
| 152. M,780029, NAIA            | - (Record with comments received from |
| 152/2. C,750361, NO MOBILE USE | Mexico and Canada)                    |
| 152/3. C,WITHIN 40 MI RAD OF   |                                       |
| 152/4. C,BURNABY BC            |                                       |

United States comment data added by NTIA staff to Canadian or Mexican coordinated records (as REMnn \*USA,) that are contained in the GMF will be formatted in SFAF Data Item 152 as follows:

**Example:**

152. U,NHIA, NOTING USE OF M163.4375, U.S.  
152/2. U,NHIA, SERIAL I8701234, DETROIT, MI

## ORGANIZATIONAL INFORMATION

Data items 200 through 209 serve two major purposes: (1) As applicable, they identify the frequency management chain responsible for managing the assignment and the organizations having an area interest in the assignment area, and (2) they are also used for the selection and distribution of records. These data items are especially important when assignments are needed promptly to meet mission requirements.

Each frequency assignment has a management chain, from the service headquarters or CINC down to the operating unit. If logically and consistently entered into the records, the data concerning the organizations in the frequency management chain can be used to select and sort records in the manner most efficient for use by each management level in the chain. Data Item 200 (Agency) and Data Item 207 (Operating Unit) should always be filled in. There may be occasions when members of the management chain are entered in more than one data item. For example, ACC (the command listed in Data Item 204) could be the operator of a net at Langley AFB. In this case, Langley (the base FMO listed in Data Item 206) could have ACC as an operating unit (Data Item 207). Consistency is the key factor in making these data items work for the good of the system. Each organizational level, from the top down, to and including operating units, must enter its data the same way each time. Although



some higher level data entries are standardized by the service or CINC, at the operating unit level they are frequently not standardized. Therefore, all frequency management levels should ensure the consistency of the data being entered by those elements subordinate to them. Where organizational data content has not been specified by a higher authority, operating units can develop their own, but they **must** be consistent when making data entries in subsequent transactions. Previous variations in organizational data are being "cleaned up" and a periodic review system has been established to maintain data item consistency.

To make this system work, each agency, CINC, and area frequency coordinator (AFC) should look at its subordinate frequency management structure and decide which frequency management elements will be reflected at which level. In most cases, it is clear; however, there will be situations where it is not clear to the level concerned. For example, in Europe, should the NCTAMSMED entry be entered in data items 203, 204 or 205? Careful, thorough planning and execution should yield a database that can, with a high degree of certainty, provide the proper records via automated data distribution for each FRRS participant

Some organizations having frequency management responsibility may not need all the organizational data items listed. However, those data items used should be entered consistently. For example, if 8AF was also entered as 8F or 8 AF, then all the records for the 8AF would not be grouped together. To reduce this type of problem, the elimination of spaces is required.

## **Agency .....200**

6 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 200 identifies the agency responsible for managing the frequency assignment. Within the DoD this is normally USA, USN, USAF, or NSA. If an assignment is in joint use by two or more agencies, then both Data Items 147 and 200 must be completed. The responsible DoD agency will be entered as the first data entry in Data Item 147 followed by the other joint agencies. For example, an assignment between USAF and NASA would be entered as **147. USAF, 147/2. NASA and 200. JNTSVC.**

**Input Requirement:** Enter one of the following service or agency abbreviations as appropriate: USA, USN, USAF, NSA, or JNTSVC. If JNTSVC is entered, Data Item 147 must be completed.

### **Example:**

200. USA

## **Unified Command .....201**

8 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 201 identifies the unified command (CINCPAC, CINCEUR, CINCSO, CINCCENT, JFMOLANT) or designated representative for the area in which the assignment will be used.

**Input Requirement:** This data item is required for all assignments where either the transmitter or a receiver is located OUS&P.

**Example A:**

201. CINCPAC

**Example B:**

201. CINCEUR

201/2. CINCSO

**Unified Command Service.....202**

8 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 202 identifies the service-level organization within the unified command area that is responsible for managing the assignment. Within the CONUS, Data Item 202 identifies the Air Force or Army MAJCOM host responsible for the installation listed in Data Item 206.

**Input Requirement:** Enter the Major Command (MAJCOM) or Specified/Unified Command that has operational control of the installation or region of the world where the transmitter is located (this is not necessarily the Command that has operational control of the assignment). Within the CONUS, Air Force and Army organizations, enter the MAJCOM of the host installation.

**Examples:**

202. PACAF

202. FORSCOM

**Bureau .....203**

4 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: BUR

**Description:** Data Item 203 identifies the Bureau to be included in the record.

**Input Requirement:** Data item 203 is required for Army assignments within the US&P and for all United States Marine Corps (USMC) assignments worldwide.

**Examples:**

203. PA

(An Army assignment in the CINCPAC area)

203. USMC

(A Marine Corps assignment)

## **Command .....204**

18 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 204 identifies the Major Command or other applicable organization frequency management level that is subordinate to the responsible agency identified in Data Item 200.

**Input Requirement:** This data item is required in all assignments. Enter the major command or other applicable organization.

### **Examples:**

204. ACC

204. TRADOC

## **Subcommand .....205**

18 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 205 indicates the frequency management level between the command (Data Item 204) and the installation frequency manager (Data Item 206), or a level of command below the organization entered in Data Item 204.

**Input Requirement:** Enter the frequency management level between the command and installation frequency manager.

### **Example:**

205. 5AF

## **Installation Frequency Manager .....206**

18 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 206 normally indicates the station, base, installation, or fort-level frequency management office responsible for the location of the operating unit.

**Input Requirement:** Enter the installation frequency manager when it exists.

### **Examples:**

206. ANDREWS

206. BRAGG

206. NASPAXRV

## **Operating Unit .....207**

18 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 207 indicates the name or designation of the organization using the frequency assignment.

**Input Requirement:** This data item is required. Enter the short name or designation of the organization using the frequency assignment. For CINCPACFLT: Enter ACFT and/or SHIPS when Data Item 300 equals PAC, LANT, INDO, etc.

**Examples:**

207. 602TCW  
207. SUBRON18  
207. 517ARTY

**User Net/Code .....208**

6 characters - 10 occurrences

Submitted to IRAC: yes                      GMF tag: NET (Only the first five characters of the first data entry)

**Description:** Data Item 208 is a unique code that identifies the specific user of the frequency, i.e., the command, activity, unit, project, etc.

**Input Requirement:** Enter codes as directed by the responsible agency, as follows:

**Army:**            Enter one Net Control Code.

**Navy:**            Enter the one Unit Identification Code (UIC) of either the operating unit identified in Data Item 207 or in Data Item 302.

**Air Force:** Enter a standard use code as directed by Air Force Frequency Management Agency.

**Examples:**

208. N53618  
208. ACEUS

**Area AFC/DoD AFC/Other Organizations .....209**

18 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 209 identifies the DoD AFC, CINC, Service Area Frequency Management Office, or other organization not provided in data items 200-208.

**Input Requirement:** This data item is optional. Enter the DoD AFC, CINC, Service Area Frequency Management Office or other organization not provided in data items 200-208. The following standard entries are used for DoD AFCs:

**AFCA** - DoD AFC Arizona  
**WSMR** - DoD AFC White Sands Missile Range  
**GAFC** - DoD Gulf AFC  
**EAFC** - DoD Eastern Space and Missile Test Center at Cape Canaveral, FL  
**AFCPR** - DoD AFC Puerto Rico  
**NAFC** - DoD AFC Nellis  
**WAFC**- DoD AFC Western Space and Missile Test Center  
**USAKA** - DoD AFC Kwajalein

If Data Item 300 equals US, USA, or USP, enter only the following DoD AFC codes respectively:

**AFCUS** - Area Frequency Coordinator United States  
**AFCUSA** - Area Frequency Coordinator United States of America  
**AFCUSP** - Area Frequency Coordinator United States and Possessions

**Example:**  
 209. JJPN

## TRANSMITTER LOCATION DATA

Transmitter data items 300 through 306 include all technical information pertaining to a single transmitter location. Only one transmitter location is allowed per assignment record.

**State/Country .....300**

4 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: XSC

**Description:** Data Item 300 is an authorized abbreviation for the state, country, or geographical area in which the transmitting station is located. This data item cannot be changed in an FRRS record containing 144. Y.

**Input Requirement:** This data item is required. Enter the name or standardized abbreviation (as listed in Annex C to this appendix) of the state, country, or area in which the transmitting antenna is located.

**Examples:**  
 300. IN  
 300. LANT  
 300. SPCE

**Antenna Location .....301**

24 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: XAL

**Description:** Data Item 301 is the name of the city, base, or geographical area of operation within which the transmitting antenna is actually located.

**Input Requirement:** This data item is required. Enter the name of the city, base, or geographical area where the transmitter antenna is located. Abbreviate the data entry if necessary; however, if an abbreviation is not required, the entry should be spelled the same as that in the US postal zip code directory or applicable gazetteer. After being entered the first time, all future entries for that same location should be spelled the same. If the transmitter antenna location is the same as the entry in Data Item 300, the antenna location should be abbreviated using the same abbreviation as that entered in Data Item 300. In addition to the above, the following will apply:

a. The following standard abbreviations will be used even if the entry is less than 24 characters:

| Abbreviation | Location Word           |
|--------------|-------------------------|
| ARPT         | Airport                 |
| ARA          | Army Area               |
| CP           | Camp                    |
| CY           | City                    |
| CGD          | Coast Guard District    |
| CO           | County                  |
| DI           | District                |
| DIV          | Division                |
| FT           | Fort                    |
| IAP          | International Airport   |
| IS           | Island(s)               |
| LNB          | Large Navigational Buoy |
| MT           | Mont, Monte, Mount(s)   |
| MTN          | Mountain(s)             |
| MAP          | Municipal Airport       |
| PG           | Proving Ground(s)       |
| PT           | Point                   |
| ST           | Saint                   |

b. If the location name exceeds 24 characters after applying the standard abbreviation(s) listed in Aa≅ above and the entry has not been previously used, then shorten the entry to 24 characters and enter the full text in Data Item 801 for review by the assignment authority.

If an area of operation is selected, it may be described as a radius, in kilometers, extending from a given location. For example, if an assignment is for transmission anywhere within a 50-kilometer radius of Dallas, then insert DALLAS in this data item and the radius in Data Item 306 (Authorized Radius). An area of operation may also be

described by geographical coordinates. For example, if an assignment is for one or more land mobile stations operating south of 33 degrees north in the state of Arizona, then insert AZ in this data item and the coordinate data in Data Item 530 (Authorized Areas).

An area of operation within several states may also be described in this data item as US or USA, with the included or excluded states being shown in Data Item 531 (Authorized States). Similarly, US&P may be used if the area includes a possession. For locations described as an area of operation, note that operations might not occur in every square mile of the area selected and the area described might overlap into states not shown in Data Item 300 (State/Country).

Although the data inserted shall normally be geographical names or descriptions, exceptions may be made for experimental operations, mobile operations where the state/country and antenna location data items are identical (such as 300. PAC, 301. PAC, etc.), and/or space operations. For an assignment to an experimental station, other than one in space, or to a mobile station having identical state/country and antenna location names, words such as AIRCRAFT, BALLOONS, or SHIPS may be used, as appropriate. For an assignment to a station aboard a geostationary satellite, insert GEOSTATIONARY. For an assignment to a station aboard a nongeostationary satellite, insert NONGEOSTATIONARY. For an assignment to a station located on a natural object in space, insert the name of the object, e.g., MOON.

**Examples:**

301. FT BRAGG  
301. NASHVILLE  
301. NONGEOSTATIONARY

**Station Control .....302**

18 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: XRC (only the first eight characters)

**Description:** Data Item 302 is used to identify the operating unit that controls, either electrically or administratively, the transmitting station when it is different from the data entered in Data Item 207. This data item is not used by Air Force.

**Input Requirement:** This data item is optional. Enter the operating unit or department that controls, either administratively or electrically, the transmitter station if it is different from the transmitter station in Data Item 207.

**Example:**

302. PWC

**Antenna Coordinates .....303**

15 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: XLA, XLG

**Description:** Data Item 303 is the World Geodetic System 1984 (WGS 84) datum latitude and longitude (expressed in degrees, minutes, and seconds) of the transmitter antenna location entered in Data Item 301.

**Input Requirement:** This data item is required except when the site named in Data Item 301 is an area of operation for which coordinates cannot be applied or for nongeostationary satellites. Enter geographical coordinates (degrees, minutes, and seconds) for the antenna location. If the seconds are not known, insert 00 for the seconds, except in the case of navigation aid system (NAVAIDS), geostationary satellites, and microwave facilities where seconds are required. Use leading zeros as appropriate for degrees, minutes, or seconds. Degrees latitude require two digits; degrees longitude require three digits. Enter N or S for latitude and E or W for longitude. If *GEOSTATIONARY* has been entered in Data Item 301, enter the latitude as 000000N and the longitudinal position of the satellite (in degrees, minutes, and seconds east or west). Note, when older maps are used, the coordinates may vary as much as 300-400 meters from locations determined by using DoD standard WGS 84 datum maps or Global Positioning System (GPS) equipment. Organizations are encouraged to obtain GPS equipment to determine the position of fixed antennas.

**Examples:**

|                      |   |
|----------------------|---|
| 303. 214216N1171039W | (Coordinates for a fixed location)          |
| 303. 000000N1750000E | (Coordinates for a geostationary satellite) |

**Call Sign .....304**

10 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: XCL (only the first 8 characters)

**Description:** Data Item 304 is the international call sign assigned to the transmitting station. For navigational aids, this data item is used for the NAVAIDS identifier instead of a call sign.

**Input Requirement:** Data Item 304 is used to assign the international call sign to the transmitting station. Leave this data item blank if the call sign is either a local voice or tactical call sign, or if it is not applicable. For navigational aids, enter the NAVAIDS identifier.

**Examples:**

304. WUH55  
304. AVV

**Authorized Radius .....306**

5 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: \*RAD



**Description:** Data Item 306 defines the area of operation for a portable, mobile, or transportable transmitter station. This area is expressed as a radius in kilometers extending from the geographical coordinates listed in Data Item 303.

**Input Requirement:** If the station is portable, mobile, and/or transportable, and a circular area is used to describe the area of operation, enter a radius (in kilometers) from the coordinates listed in Data Item 303 to describe the area in which the transmitter station will operate. Add the suffix T to the entry if the radius applies only to the transmitter station, or B if the radius applies to both the transmitter and receiver stations (Note: When both fixed and mobile stations are to transmit on the same frequency, leave this data item blank and enter the radius of the mobile station in Data Item 406).

**Examples:**

306. 30T (Indicates a 30-kilometer radius of operation for the transmitter)

306. 150B (Indicates a 150-kilometer radius of operation for both transmitter and receiver stations)

## SPACE STATIONS

Data items 315 through 321 are to be used for transmitter space-station data. Leave data items 315 through 319 blank for geostationary satellites.

### Equatorial Inclination Angle.....315

4 characters - 1 occurrence

Submitted to IRAC: yes GMF tag: \*ORB preceding IN

**Description:** Data Item 315 indicates the angle at which the transmitting NONGEOSTATIONARY satellite's orbit crosses the equator. A nongeostationary satellite is defined as one whose circular orbit does not lie in the plane of the earth's equator and has a specific equatorial inclination, apogee, and perigee.

**Input Requirement:** Enter an equatorial inclination angle (in degrees), using a decimal point for fractional degrees for nongeostationary space transmitter stations.

**Example:**

315. 34.7

### Apogee.....316

5 characters - 1 occurrence

Submitted to IRAC: yes GMF tag: \*ORB preceding AP

**Description:** Data Item 316 indicates the point in the orbit of a NONGEOSTATIONARY satellite at which it is farthest from the earth.

**Input Requirement:** Enter apogee (in kilometers) for nongeostationary space transmitter stations.

**Example:**  
316. 23500

**Perigee.....317**

5 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: \*ORB preceding PE

**Description:** Data Item 317 indicates the point in the orbit of a NONGEOSTATIONARY satellite at which it is nearest to earth.

**Input Requirement:** Enter perigee (in kilometers) for nongeostationary space transmitter stations.

**Example:**  
317. 200

**Period of Orbit.....318**

(7 characters - 1 occurrence)

Submitted to IRAC: yes                      GMF tag: \*ORB

**Description:** Data Item 318 indicates the time it takes for a NONGEOSTATIONARY transmitter satellite to make one complete orbit.

**Input Requirement:** Enter the period of orbit for nongeostationary space transmitter stations. If the period of orbit is less than 24 hours, enter the time in hours followed by the letter H. If it is 24 hours or more, enter the number of days, followed by the letter D. Enter the data, using a decimal point for a fractional unit.

**Example:**  
318. 19.6H

**Number of Satellites .....319**

2 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: \*ORB preceding NR

**Description:** Data Item 319 indicates the number of NONGEOSTATIONARY satellite transmitters in a system having similar orbital characteristics.

**Input Requirement:** Enter the number of nongeostationary satellites in the system.

**Example:**  
319. 1

## **Power Density .....321**

4 characters - 1 occurrence

Submitted to IRAC: yes      GMF tag: SPD

**Description:** Data Item 321 indicates the maximum power density, per hertz (in dBW), supplied to an earth or space station's antenna or to those of terrestrial stations (including experimental) employing earth or space-station techniques. For frequencies below 15 GHz, the power shall be averaged over the worst 4 kHz band; for frequencies 15 GHz and above, the power shall be averaged over the worst 1 MHz band. The worst 4 kHz and 1 MHz bands are defined as those having the highest power density within the assigned emission bandwidth.

**Input Requirement:** For earth, space, or terrestrial stations (including experimental stations) employing earth or space-station techniques, insert the maximum power density per Hz (in dBW) supplied to the antenna. For negative values, insert a minus sign (-) before the value.

### **Example:**

321. 8

## **TRANSMITTER EQUIPMENT**

Data items 340 through 349 are used for the Transmitter Equipment. When both fixed and mobile stations (FA/MA, FB/ML, etc.) are used, enter the fixed transmitter data first.

## **Equipment Nomenclature.....340**

1,18 characters - 10 occurrences

Submitted to IRAC: yes      GMF tag: \*EQT

**Description:** Data Item 340 has two parts. The first part identifies the type of equipment (government, commercial, or unassigned) and the second part identifies either the standard military nomenclature or the commercial make and model number of the equipment at each specific transmitter station location. If both a military nomenclature and a commercial model number are assigned to the same equipment, the military nomenclature will be used.

**Input Requirement:** This data item is required. Enter the equipment type code followed by the equipment system or component nomenclature for the transmitter location. (If available, the system nomenclature is preferred rather than the component nomenclature; however, either is acceptable. Data items 340 and 343 are interrelated, and an entry in Data Item 340 should be accompanied by a corresponding entry in Data Item 343, if known. If Data Item 343 is known, enter the nomenclature exactly as it is recorded in the Spectrum Certification System (SCS) database or J-12 document DD Form 1494.) Enter one of the following equipment type codes:

**G** - Government nomenclature  
**C** - Commercial model number  
**U** - Unassigned nomenclature

After the equipment type code, enter a comma and then the nomenclature subject to the following:

a. For a government equipment nomenclature, enter the standard military nomenclature.

**Examples:**

340. G,AN/GRC-103

(A system nomenclature)

340. G,T128

(A transmitter component nomenclature)

b. If only a commercial model number is available, indicate the manufacturer of the equipment, using the manufacturer's code listed in Annex D to this appendix, followed by the model number. If no manufacturer code exists or is unknown, enter the full name of the manufacturer in Data Item 801.

**Example:**

340. C,MOTH23FFN1130E

(A commercial handie-talkie manufactured by Motorola, model number H23FNN1130E. A partial nomenclature such as MOTH23 is incomplete since it applies to several different models of Motorola handie-talkies. The manufacturer's name and the complete model number should be obtained from data plates on equipment whenever possible)

c. If the nomenclature includes a modification, insert MOD and a number, if applicable, immediately following the nomenclature. For the word MARK, insert MK immediately following the nomenclature.

**Example:**

340. G,T238MK1

d. If the transmitter does not have an assigned government nomenclature or commercial model number, enter the manufacturer's name and a brief description of the equipment listed in Data Item 801.

**Example:**

801. COLLINS RADIO EXPERIMENTAL  
801. RADAR

**Number of Stations, System Name .....341**

5,29 characters - 3 occurrences

Submitted to IRAC: yes      GMF tag: \*NRM

**Description:** Data Item 341 is a two part data item. The first part identifies the number of transportable, land-mobile and portable-type stations associated with the assignment and the second part identifies the name of the system involved. A station is one or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment necessary at one location for carrying on a radio communication service. A system is considered two or more equipment having a common property, usually geographic, administrative, functional, or operational in nature.

**Input Requirement:** In the 30-50, 138-144, 148-149.9, 150.05-150.8, 162-174, and 406.1-420 MHz bands, enter the number of land mobile stations, ship stations, and

transportable stations associated with the assignment (if desired this data may be entered on assignments in other bands or for aircraft stations). The number entered shall represent either the exact number of stations or a range of numbers as follows:

| Number of Stations | Enter         |
|--------------------|---------------|
| 1-10               | 10            |
| 11-30              | 30            |
| 31-100             | 100           |
| 101-300            | 300           |
| 301-1000           | 1000          |
| 1001-3000          | 3000          |
| 3001-10000         | 10000         |
| Above 10000        | Nearest 10000 |

If the exact number is to be recorded, and it is 10, 30, 100, 300, 1000, 3000, or a multiple of 10000, add one to the number to distinguish it from a figure that represents a range of numbers. System names shall be determined by the applicant and must not be longer than 18 characters. The word NET (or letter AN≡) may be used as the system name.

**Example:**

341. 1001,NET

Also, you may enter N if the assignment represents an entire system; enter S for all other cases. To enter a system name only, enter XXXXX, a comma, and the system name (see the last Example).

**Examples:**

341. 31,N

341. XXXXX,RANGE COORDINATION

**TX Aircraft Nautical Mile Value .....342**

4 characters - 1 occurrence

Submitted to IRAC: no GMF tag: \*RAD

**Description:** Data Item 342 contains the transmitter radius of aeronautical assignment group frequency area of operation in nautical miles and is computer-generated from Data Item 306.

**Input Requirement:** This is an NTIA computer-generated output data item.

**Example:**

342. 26

**Equipment Allocation Number .....343**

7 characters - 10 occurrences

Submitted to IRAC: yes            GMF tag: \*AGN,JFAn-

(n = the occurrence number in older records where there is more than one entry.)

**Description:** Data Item 343 indicates the allocation number assigned to the transmitter equipment or system by the J/F-12 Working Group.

**Input Requirement:** Enter the equipment J-12 allocation number (DD Form 1494) if known. Include a slash A/≡ and the revision number when appropriate. (Data items 340 and 343 are interrelated, and an entry in Data Item 343 must be accompanied by a corresponding entry in Data Item 340.) Note: If an SCS database or a DD Form 1494 exists and is available, use it as the source from which to obtain the correct information to complete Item 340.

**Examples:**

343. 1269

343. 337/2

**Off-the-Shelf Equipment.....344**

6 characters - 10 occurrences

Submitted to IRAC: yes            GMF tag: \*EQS

**Description:** Data Item 344 may be used in frequency bands 29.89-50.00, 150.8-174.0, 406.1-420.0 and 450-512 MHz for Land Mobile System (LMS) assignments. This data item may also be used in frequency bands 108.000-117.975 and 328.6-335.4 MHz for the following types of assignments: VOR1A, VOR1B, VOR2A, VOR2B, ILSLOC, or ILSGS.

**Input Requirement:** This data item is not used by DoD. Enter one of the following codes: LMS, VOR1A, VOR1B, VOR2A, VOR2B, ILSLOC, or ILSGS. This data item is not stored in the FRRS central database.

**Example:**

344. VOR1A

**Radar Tunability.....345**

2 characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: \*EQT

**Description:** Data Item 345 is a coded entry describing the tuning capabilities of both pulsed and nonpulsed radars.

**Input Requirement:** For all radars, enter one of the following symbols:

**FA** - Frequency-agile radars that operate on various frequencies within a band, either specified or random mode

**FV** - Radars that operate on a discrete frequency determined by the characteristics of a fixed magnetron or similar radio frequency generating device

**FX** - Radars capable of operating on a single discrete frequency

**TC** - Radars capable of being tuned to any frequency within the requested band

**TS** - Radars capable of being tuned across the authorized or requested band in discrete steps or increments. This includes crystal control.

**Example:**

345. TC

**Pulse Duration.....346**

9 or 9-9 characters - 30 occurrences

Submitted to IRAC: yes                      GMF tag: \*EQT following PD

**Description:** Data Item 346 indicates the width of the transmitted pulse (measured in microseconds or milliseconds at the half-power (3 dB) points) for all equipment using pulsed emission.

**Input Requirement:** For all stations using pulsed emissions, insert a numeric value(s) indicating the characteristic pulse duration(s) of the equipment at the half-power points. Pulse duration (PD) will be indicated in microseconds up to and including 999 microseconds and in milliseconds at one millisecond and above. Add the letter M at the end of the numeric value when expressed in milliseconds. Fractions may be shown to the nearest tenth by using a decimal. For equipment having a capability for continuously variable PDs over wide range(s), insert upper and lower numerical values separated by a dash.

**Example:**

|               |   |
|---------------|---|
| 346. 1        | (Inserts or changes the PD values of 1, 3, and 5.6    |
| 346/2. 3      | microseconds for the first three values and inserts   |
| 346/3. 5.6    | a 1 to 25 millisecond PD range for the fourth value.) |
| 346/4. 1M-25M |   |

**Pulse Repetition Rate .....347**

9 or 9-9 characters - 30 occurrences

Submitted to IRAC: yes                      GMF tag: \*PRR



**Description:** Data Item 347 indicates the number of pulses per second (PPS) for all equipment using pulsed emission.

**Input Requirement:** For all stations using pulsed emissions, enter the numeric value(s) for the pulse repetition rate(s) (PRRs) of the equipment. PRRs will be indicated in pulses per second (PPS) up to and including 999 PPS and in thousands of pulses per second at 1000 PPS and above, adding the letter K after the numeric value. For equipment having a capability for continuously variable PRRs over a wide range(s), insert upper and lower numerical values separated by a dash.

**Example:**

347. 500

347/2. 750

347/3. 1K

347/4. 200-999

(Inserts the PRR values of 500, 750, and 1000 PPS for the first three entries and a 200 to 999 PPS range for the fourth value.)

**Intermediate Frequency.....348**

11 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 348 provides the intermediate frequency (an image frequency at any given point in the tuning range) value resulting from a frequency conversion into a fixed, lower carrier (before demodulation).

**Input Requirement:** Data Item 348 is required for USCINCEUR assignments. It is optional for all others. Precede the intermediate frequency value with unit indicators as follows:

**K** - If frequency is less than 30 MHz

**M** - If frequency is at least 30 MHz, but less than 100 GHz

**G** - If frequency is at least 100 GHz, but less than 3 THz

**T** - If frequency is 3 THz or greater

**Example:**

348. M450

**Sidelobe Suppression.....349**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 349 indicates whether a portion of the radiation from an antenna outside of the main beam and usually of much less intensity has been suppressed or eliminated. The suppression or elimination of unwanted signals or interference takes place by means of shielding, filtering, grounding, component relocation, or sometimes redesign of the equipment in use.

**Input Requirement:** Data Item 348 is required for USCINCEUR assignments. It is optional for all others. For Radar assignments enter one of the following codes:

**Y** - Sidelobe suppressed

**N** - Sidelobe not suppressed

**Example:**

349. Y

## TRANSMITTER ANTENNA DATA

Transmitter antenna data consists of data items 354 through 374. When both fixed and mobile stations (FA/MA, FC/MS, etc.) are used, enter the fixed antenna data first.

**Antenna Name .....354**

10 characters - 10 occurrences

Submitted to IRAC: yes      GMF tag: part of XAD

**Description:** Data Item 354 is the generic name for the type of antenna normally associated with the transmitter.

**Input Requirement:** This data item is required for transmitter antennas at terrestrial stations, except experimental and mobile stations, that operate at 29890 kHz and above. If necessary, abbreviate to 10 characters. Entry not required if application is (a) below 29890 kHz, (b) space or earth station. Required for USCINCCENT assignments.

**Examples:**

354. WHIP

354. PARABOLIC

**Antenna Nomenclature .....355**

18 characters - 10 occurrences

Submitted to IRAC: yes      GMF tag: \*EQT following the \$ symbol

**Description:** Data Item 355 is the standard military nomenclature or commercial manufacturer's make and model number of the transmitter antennas.

**Input Requirement:** Data Item 355 is required except when it is part of a satellite transponder. Indicate antenna's nomenclature or commercial manufacturer's model number, but omit the model number if the antenna is part of a satellite transponder. If only a commercial model or nomenclature is known, enter the manufacturer's code (from Annex D to this appendix) followed by the antenna model number.

**Examples:**

355. AS102 (Inserts a government antenna nomenclature)

355. RCATVM000IA (Inserts an RCA Corporation commercial antenna nomenclature.)

**Antenna Structure Height.....356**

3 characters - 10 occurrences

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 356 identifies the overall height (in meters) of the transmitter antenna support structure above ground level.

**Input Requirement:** Data Item 356 is required for CINCEUR assignments. It is optional for all others. Enter in meters the overall height of the antenna structure above ground level. This entry is not applicable to Mobile services.

**Example:**

356. 17

**Antenna Gain.....357**

4 characters - 10 occurrences

Submitted to IRAC: yes GMF tag: part of XAD: negative gains are in \*EGN, \*SGN

**Description:** Data Item 357 indicates the antenna gain, in decibels, with reference to an isotropic source (dBi) in the direction of maximum radiation.

**Input Requirement:** Enter the antenna gain (in dB with reference to an isotropic source) in the direction of maximum radiation. The gain may be omitted on applications for terrestrial stations below 29890 kHz if the gain is for other than fixed (FX) or aeronautical fixed (AX) stations in the 3000 to 29890 kHz band, or for terrestrial stations operating at 29890 kHz and above for experimental and mobile stations. For a negative gain (earth and space stations only), enter a dash before the value of the gain. Required for USCINCCENT assignments.

**Examples:**

357. -10

357. 20

**Antenna Elevation.....358**

5 characters - 10 occurrences

Submitted to IRAC: yes GMF tag: part of XAD

**Description:** Data Item 358 specifies the site's terrain elevation, in meters above mean sea level (AMSL), at the base of a fixed station's transmitter antenna. If the antenna is

installed on a structure such as a tower or a building, the site elevation is specified as the ground elevation at the base of the structure.

**Input Requirement:** Data Item 358 is required except for applications for frequencies below 29890 kHz or for terrestrial stations operating at 29890 kHz and above if for experimental and mobile stations. Enter the site (terrain) elevation (at the base of the transmitting antenna structure) in meters AMSL.

**Example:**  
358. 980

## **Antenna Feed Point Height.....359**

5 characters - 10 occurrences

Submitted to IRAC: yes      GMF tag: Part of XAD

**Description:** Data Item 359 indicates the distance (in meters) between the transmitter antenna's feedpoint and the terrain.

**Input Requirement:** Data Item 359 is required except for applications for frequencies below 29890 kHz or for terrestrial stations operating at 29890 kHz and above if for experimental and mobile stations. Enter in meters, the antenna feed point height above the terrain. In the case where the antenna is mounted pointing vertically to a reflector on the same structure, enter the height of the reflector above ground.

**Example:**  
359. 10

For airborne satellite terminals, enter the maximum operational altitude of the aircraft in meters AMSL.

**Example:**  
359. 10000

## **Antenna Horizontal Beamwidth .....360**

4 characters - 10 occurrences

Submitted to IRAC: yes      GMF tag: part of XAD, sometimes entered in \*EBW, \*SBW

**Description:** Data Item 360 describes the angular beamwidth (measured in degrees at the half-power (3 dB) points) of space, earth or terrestrial station antennas (including experimental) employing earth or space-station techniques.

**Input Requirement:** For space, earth, or terrestrial stations (including experimental) employing space or earth station techniques, enter the antenna beamwidth (in degrees)

at the half-power (-3 dB) points. For a fractional beamwidth, add a zero before the decimal.

**Examples:**

360. 0.5  
360. 12  
360. 17.2

**Antenna Vertical Beamwidth.....361**

3 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 361 indicates the transmitter antenna vertical beamwidth, measured in degrees and normally taken as the angle between the half power points (-3 dB points) from the pattern of the antenna.

**Input Requirement:** Data Item 361 is required for CINCEUR assignments. It is optional for all others. Enter the half-power vertical beamwidth in degrees, measured between the -3 dB points.

**Example:**

361. 23

**Antenna Orientation.....362**

3 or 3,3 or 3,3-3 or 3,3/3 characters - 10 occurrences

Submitted to IRAC: yes                      GMF tag: XAZ, Enter in XAD when this is a space assignment.

**Description:** Data Item 362 describes the physical direction or movement of the transmitter antenna. A second entry indicating the azimuth angle of the antenna's main beam may also be given. This second entry, given in degrees clockwise from true north, applies only to earth stations or terrestrial stations employing earth-station techniques.

**Input Requirement:** This data item is required for all earth, space, and terrestrial stations.

a. **Terrestrial Antenna:** Enter the three-digit azimuth in degrees from true north or one of the codes listed below for the transmitter antenna.

**Antenna Codes**

**ND**        - nondirectional  
**R**         - rotating through 360 degrees  
**S**         - fixed direction but steerable in the horizontal plane  
**SSH**      - scanning horizontally through a limited sector  
  
**SSV**      - vertical scanning (nodding)

**T** - tracking that can observe a moving object.

**Examples:**

362. 225

362. ND

b. **Earth Station:** Enter the antenna's minimum operating elevation in degrees consisting of V followed by a two-digit value. Follow the vertical data with a comma and the three-digit azimuth in degrees from true north to the geostationary satellite. For more than two nongeostationary satellites, enter the maximum range of the azimuth angle in three-digit values separated by a dash.

**Examples:**

362. V09,133

362. V12,122-160

c. **Space Station:** Enter either NB for narrow beam or EC for earth coverage.

**Example:**

362. EC

**Antenna Polarization.....363**

1 character - 10 occurrences

Submitted to IRAC: yes      GMF tag: XAP

**Description:** Data Item 363 is a one-character code indicating the polarization of the electromagnetic radiation from the antenna.

**Input Requirement:** Enter the polarization of the antenna using one of the following symbols:

| Code | Polarization             |
|------|--------------------------|
| A    | Elliptic, left           |
| B    | Elliptic, right          |
| D    | Rotating                 |
| E    | Elliptical               |
| F    | 45-degrees               |
| H    | Fixed horizontal         |
| J    | Linear                   |
| L    | Left-hand circular       |
| M    | Oblique, angled left     |
| N    | Oblique, angled right    |
| O    | Oblique, angled, crossed |

|          |                              |
|----------|------------------------------|
| <b>R</b> | Right-hand circular          |
| <b>S</b> | Horizontal and vertical      |
| <b>T</b> | Right and left-hand circular |
| <b>V</b> | Fixed vertical               |
| <b>X</b> | Other or unknown             |

Data Item 363 is required for each transmitter antenna as described below:

- a. Assignments above 1000 MHz that must be coordinated (by the IRAC) with the Canadian Department of Communications.
- b. Assignments to earth or space stations or to terrestrial stations (including experimental stations) employing earth or space-station techniques.
- c. Assignments to terrestrial stations at 420 MHz and above except for the optional cases shown below:
  - (1) Experimental stations
  - (2) Mobile stations
  - (3) Meteorological aids in the 1660-1700 MHz band
  - (4) TACAN/DME in the 960-1215 MHz band
  - (5) Aeronautical telemetry in the 1435-1535, 2200-2290, or 2310-2390 MHz bands

**Example:**  
363. V

## **JSC Area Code .....373**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** This is a one-character code computer-generated by the JSC from Data Item 300. It indicates a minor area of the world in which the transmitter is located and is used to reduce computer search time. The list of approved codes are listed in Annex E to this appendix.

**Input Requirement:** This is a JSC computer-generated output data item.

**Example:**  
373. A

**ITU Region .....374**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 374 is a single integer (1, 2, or 3) indicating an ITU-designated region of the world in which the transmitter is located.

**Input Requirement:** This data item is computer-generated by the JSC for ITU records only.

**Example:**

374. 2

## RECEIVER LOCATION DATA

A maximum of 30 receiver locations are permitted in a frequency assignment record. Receiver location data consists of data items 400 through 408 . When multiple occurrences of receiver location data occur, the data entries must correspond in the same sequence throughout; that is, proper alignment of multiple occurrence entries must be maintained so each specified data item will be associated with the correct receiver. Additionally, each set of equipment and antenna data must be associated with a particular occurrence of a receiver location site.

When more than one receiver location is involved, the corresponding information in the data items will be designated as R01 or R02, etc. For example, **401. TAMPA,R01 401. MIAMI,R02** indicates that receiver number one is in Tampa and receiver number two is in Miami. **Only one occurrence of each of the 400-408 series data items is permitted for a particular receiver location.**

**State/Country .....400**

4 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: RSC

**Description:** Data Item 400 is an authorized abbreviation for the state, country, or geographical area in which the receiving station is located. The approved list of abbreviations are listed in Annex C to this appendix.

**Input Requirement:** This data item is required. Enter the name or abbreviation of the state, country, or area in which the receiving antenna is located.

**Example A:**

400. NC    (a single or first occurrence for a receiver)

**Example B:**

400. TN,R01                                      (an example of two receivers)



**Antenna Location .....401**

24 characters - 1 occurrence per receiver location

Submitted to IRAC: yes              GMF tag: RAL

**Description:** Data Item 401 is the name of the city, base, or geographical area of operation within which the receiving antenna is actually located.

**Input Requirement:** This data item is required. Enter the name of the city, base, or geographical area where the receiver antenna is located. Abbreviate the data entry if necessary; however, if an abbreviation is required, the entry should be spelled the same as that in the US Postal Zip Code Directory or applicable gazetteer. After a name has been entered the first time, all future entries for that same location should use the same spelling. If the receiver antenna location is the same as the entry in Data Item 400, the antenna location will be abbreviated using the same abbreviation entered in Data Item 400.

a. In addition to the above, the following standard abbreviations will be used even if the entry is less than 24 characters.

| <b>Abbreviation</b> | <b>Location Word</b>    |
|---------------------|-------------------------|
| <b>ARPT</b>         | Airport                 |
| <b>ARA</b>          | Army Area               |
| <b>CP</b>           | Camp                    |
| <b>CY</b>           | City                    |
| <b>CGD</b>          | Coast Guard District    |
| <b>CO</b>           | County                  |
| <b>DI</b>           | District                |
| <b>DIV</b>          | Division                |
| <b>FT</b>           | Fort                    |
| <b>IAP</b>          | International Airport   |
| <b>IS</b>           | Island(s)               |
| <b>LNB</b>          | Large Navigational Buoy |
| <b>MT</b>           | Mont, Monte, Mount(s)   |
| <b>MTN</b>          | Mountain(s)             |
| <b>MAP</b>          | Municipal Airport       |
| <b>PG</b>           | Proving Ground(s)       |
| <b>PT</b>           | Point                   |
| <b>ST</b>           | Saint                   |

b. If the location name exceeds 24 characters after applying the standard abbreviation(s) listed in “a” above, and the entry has not been previously used, then shorten the entry to 24 characters and enter the full text in Data Item 801 for review by the assignment authority.

If an area of operation is involved, it may be described as a radius, in kilometers, extending from a given location. For example, if an assignment is for transmission anywhere within a 50-kilometer radius of Dallas, then insert DALLAS in this data item and the radius in Data Item 306 (Authorized Radius). An area of operation may also be described by geographical coordinates. For example, if an assignment is for one or more land mobile stations operating south of 33 degrees north in the state of Arizona, then insert AZ in this data item and the coordinate data in Data Item 530 (Authorized Areas).

An area of operation within several states may also be described in this data item as US or USA, with the included or excluded states being shown in Data Item 531 (Authorized States). Similarly, US&P may be used if the area includes a possession. For locations described as an area of operation, note that operations might not occur in every square mile of the area concerned and that the area described might overlap into states not shown in Data Item 300 (State/Country).

While the data inserted shall normally be geographical names or descriptions, exceptions may be made for experimental operations, mobile operations where the state/country and antenna location data items are identical (such as PAC PAC, etc.), and/or space operations. For an assignment to an experimental station, other than one in space, or to a mobile station having identical state/country and antenna location names, words such as AIRCRAFT, BALLOONS, or SHIPS may be used as appropriate. For an assignment to a station aboard a geostationary satellite, insert GEOSTATIONARY. For an assignment to a station aboard a nongeostationary satellite, insert NONGEOSTATIONARY. For an assignment to a station located on a natural object in space, insert the name of the object, e.g., MOON.

**Examples:**

401. FT BRAGG  
401. NASHVILLE,R05  
401. NONGEOSTATIONARY

**Receiver Control .....402**

18 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: RRC (Only the first eight characters are sent to NTIA.)

**Description:** Data Item 402 is used to identify the operating unit that controls, either electrically or administratively, the receiver station when it is different from the data entered in Data Item 207. Data Item 402 is not used by the Air Force.

**Input Requirement:** Enter the operating unit or department (when it is different from the data entered in Data Item 207) that controls, whether administratively or electronically, the receiving station.

**Example:**

402. P.C.

## **Antenna Coordinates .....403**

15 characters - 1 occurrence per receiver location

Submitted to IRAC: yes            GMF tag: RLA, RLG

**Description:** Data Item 403 is the WGS 84 datum latitude and longitude (expressed in degrees, minutes, and seconds) of the receiver antenna location(s) entered in Data Item 401.

**Input Requirement:** Data Item 403 is required except when the site named in Data Item 401 is an area of operation for which coordinates cannot be applied and for nongeostationary satellites. Enter geographical coordinates (degrees, minutes, and seconds) for the antenna location. If the seconds are not known, insert 00 for the seconds, except in the case of the NAVAIDS, geostationary satellites, and microwave facilities where seconds are required. Use leading zeros as appropriate for degrees, minutes, or seconds. Degrees latitude require two digits; degrees longitude require three digits. Enter N or S for latitude and E or W for longitude. If *GEOSTATIONARY* has been entered in Data Item 401, enter the latitude as 000000N and the longitudinal position of the satellite (in degrees, minutes, and seconds east or west). Note, when older maps are used, the coordinates may vary as much as 300-400 meters from locations determined by using DoD standard WGS 84 datum maps or Global Positioning System (GPS) equipment. Organizations are encouraged to obtain GPS equipment to determine the position of fixed antennas.

### **Examples:**

403. 422615N1263228W

403. 000000N0925300W

## **Call Sign.....404**

10 characters - 1 occurrence per receiver location

Submitted to IRAC: yes            GMF tag: ACL (Only the first eight characters are sent to NTIA.)

**Description:** Data Item 404 is the international call sign assigned to the receiving station. For navigational aids, this data item is used for the NAVAIDS identifier instead of a call sign.

**Input Requirement:** Data Item 404 is used for the international call sign assigned to the receiving station. Leave this data item blank if the call sign is either a local voice or tactical call sign, or if it is not applicable. For navigational aids, enter the NAVAIDS identifier.

### **Example:**

404. WUH55

## **Authorized Radius.....406**

4 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: \*RAD

**Description:** Data Item 406 defines the area of operation for portable, mobile, or transportable receiver stations. This area is expressed as a radius in kilometers extending from the coordinates listed in Data Item 403.

**Input Requirement:** If Data Item 306 is blank and the receiving station is portable, mobile, or transportable and a circular area is used to describe the area of operation, enter the radius (in kilometers from the coordinates entered in Data Item 403) to describe the area in which the receiving station will operate. (Note: When both fixed and mobile stations transmit on the same frequency, an entry in Data Item 406 indicates that the mobile station will be operating within the area described).

**Example:**  
406. 250

**Path Length .....407**

5 characters - 1 occurrence per receiver location

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 407 shows the distance (in kilometers) between the terrestrial transmitter and receiver stations. It is applicable only to fixed service facilities operating between 4 and 30 MHz.

**Input Requirement:** This is a JSC computer-generated output data item.

**Repeater Indicator .....408**

1 character - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: \*RPT

**Description:** Data Item 408 indicates if the receiver station is used primarily as a repeater. A direct coupling between the station's receiver and the station's transmitter allows the incoming signal to be retransmitted exactly as received.

**Input Requirement:** Input for Data Item 408 is applicable only between 29890 and 420 MHz. Enter the letter R for each receiver location when a station in the fixed or mobile service is used primarily as a repeater.

**Example:**  
408. R,R02

## SPACE STATIONS

A maximum of 30 space-station receiver stations are permitted in a frequency assignment record. Data items 415 through 419 are to be used for unique space station data. Leave data items 415 through 419 blank for geostationary satellites.

## **Equatorial Inclination Angle .....415**

4 characters - 1 occurrence per receiver location

Submitted to IRAC: yes      GMF tag: \*ORB preceding IN

**Description:** Data Item 415 indicates the angle at which the nongeostationary receiving satellite's orbit crosses the equator. A nongeostationary satellite is defined as one whose circular orbit does not lie in the plane of the earth's equator and that has a specific equatorial inclination, apogee, and perigee.

**Input Requirement:** Enter equatorial inclination angle (degrees) for nongeostationary space receiver stations.

### **Example:**

415. 34.7

## **Apogee .....416**

5 characters - 1 occurrence per receiver location

Submitted to IRAC: yes      GMF tag: \*ORB preceding AP

**Description:** Data Item 416 indicates the point in the orbit of a nongeostationary receiver satellite at which it is farthest from the earth.

**Input Requirement:** Enter apogee (in kilometers) for nongeostationary space receiver stations.

### **Example:**

416. 23100

## **Perigee .....417**

5 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: \*ORB preceding PE

**Description:** Data Item 417 indicates the point in the orbit of a nongeostationary receiver satellite at which it is nearest to the earth.

**Input Requirement:** Enter perigee (in kilometers) for nongeostationary space receiver stations.

**Example :**  
417. 200

**Period of Orbit.....418**

7 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: \*ORB

**Description:** Data Item 418 indicates the time it takes for a nongeostationary receiver satellite to make one complete orbit.

**Input Requirement:** Enter period of orbit for nongeostationary space receiver stations. If the period of orbit it is less than 24 hours, enter the time in hours followed by the letter H. If the period is 24 hours or more, enter the number of days followed by the letter D.

**Example:**  
418. 19.6H

**Number of Satellites .....419**

2 characters - 1 occurrence per receiver location

Submitted to IRAC: yes                      GMF tag: \*ORB

**Description:** Data Item 419 indicates the number of nongeostationary receiving satellites in a system having similar orbital characteristics.

**Input Requirement:** Enter the number of nongeostationary satellites in the system.

**Example:**  
419. 24

## RECEIVER EQUIPMENT

A maximum of 30 receiver locations are permitted in a frequency assignment record. When both fixed and mobile stations (FA/MA, FC/MS, etc.,) are used in data items 440 through 443, enter the fixed receiver data first.

## **Equipment Nomenclature .....440**

1,18 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: \*EQR

**Description:** Data Item 440 is a two-part data item. The first part identifies the type of equipment (government, commercial, or unassigned), and the second part identifies either the standard military nomenclature or the commercial make and model number of the equipment at each specific receiver station location. If both a military nomenclature and a commercial model number are assigned to the same equipment, the military nomenclature will be used.

**Input Requirement:** This data item is required. Enter an equipment type code followed by the equipment system or component nomenclature for the receiver location. (Data items 440 and 443 are interrelated, and an entry in Data Item 440 should be accompanied by a corresponding entry in Data Item 443, if known and if it is different from the entries in data items 340 and 343.) If Data Item 443 is known, enter the nomenclature exactly as it is recorded in the SCS database or J-12 document, DD Form 1494. Enter one of the following codes:

**G** - Government nomenclature

**C** - Commercial model number

**U** - Unassigned nomenclature

After the equipment type code, enter a comma and then the nomenclature subject to the following:

(1) For government equipment nomenclatures, enter the standard military nomenclature.

**Example:**

440/2. G,AN/ARC-121,R03    (The second receiver equipment at the third receiver location)

(2) If only a commercial model number is available, indicate the manufacturer of the equipment using the manufacturer's codes listed in Annex D to this appendix, followed by the model number. If no manufacturer code exists, enter the full name of the manufacturer in Data Item 801.

(3) If the nomenclature includes a modification, insert MOD and a number, if applicable, immediately following the nomenclature. For the word MARK, insert MK immediately following the nomenclature.

(4) If the receiver does not have an assigned government nomenclature or commercial model number, enter the manufacturer's name and a brief description of the equipment in Data Item 801.

**Example:**

440. C,MOTH23FFN1130E    (An equipment nomenclature at the first receiver location)

**Rx Aircraft Nautical Mile Value .....442**

4 characters - 1 occurrence per each receiver location

Submitted to IRAC: no                      GMF tag: \*RAD

**Description:** Data Item 442 contains the receiver radius of aeronautical assignment group frequency area of operation in nautical miles and is generated from Data Item 406.

**Input Requirement:** This is an NTIA computer-generated output data item.

**Example:**

442. 200

**Equipment Allocation Number .....443**

7 characters - 10 occurrences per each receiver location

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 443 indicates the allocation number assigned to the receiver equipment by the J/F-12 Working Group.

**Input Requirement:** Enter the equipment J-12 allocation number (DD Form 1494) if known and if it is different from the entries in data items 340 and 343. Include a slash A/≡ and the revision number when appropriate. (Data items 440 and 443 are interrelated, and each entry in Data Item 443 must be accompanied by a corresponding entry in Data Item 440.) Note: If an SCS database or J-12 document DD Form 1494 exists and is available, use it as the source from which to obtain the correct information to complete Item 440.

**Examples:**

443. 1269

443. 377/2

## **RECEIVER ANTENNA DATA**

A maximum of 30 receiver locations are permitted in a frequency assignment record. Receiver antenna data (consists of data items 454 through 463) is required for space and earth stations, fixed (point-to-point) and fixed station receivers or repeaters to which a mobile station transmits. (In other instances, the data entry is optional.)

**Antenna Name .....454**

10 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: part of RAD

**Description:** Data Item 454 is the generic name for the type of antenna.



**Input Requirement:** Enter the generic name for the type of the antenna. Data Item 454 is required for each receiver antenna for terrestrial stations, except experimental and mobile stations, that operate at 29890 kHz and above. If necessary, abbreviate the data entry to 10 characters. This entry not required if the application is (a) below 29890 kHz, (b) a space or earth-station, or (c) a mobile-to-mobile station.

**Example:**

454. WHIP,R02

(Two antennas at the second receiver location)

454/2. DIPOLE,R02

**Antenna Nomenclature .....455**

18 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: \*EQR following the \$ symbol

**Description:** Data Item 455 is the standard military nomenclature or commercial manufacturer's make and model number of the antenna.

**Input Requirement:** Data Item 455 is required except when it is part of a satellite transponder. Indicate antenna's military nomenclature or commercial manufacturer's model number. If only a commercial model or nomenclature is known, enter the manufacturer's code (from Annex C of this appendix) followed by the antenna model number.

**Examples:**

455. AS102

(Inserts a government antenna nomenclature)

455. RCATVM000IA

(Inserts RCA Corporation's commercial antenna nomenclature.)

**Antenna Structure Height .....456**

3 characters - 10 occurrences per each receiver location

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 456 identifies the overall height in meters of the receiver antenna support structure above ground level.

**Input Requirement:** Data item 456 is required for USCINCEUR assignments. It is optional for all others. Enter, in meters, the overall height of the antenna structure above ground level. This entry not applicable to mobile services.

**Example:**

456. 17

## **Antenna Gain.....457**

4 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: RAD; negative gains are in \*SGN, \*EGN

**Description:** Data Item 457 indicates the antenna gain in decibels with reference to an isotropic source (dBi) in the direction of maximum radiation.

**Input Requirement:** Enter the antenna gain (in dB with reference to an isotropic source) in the direction of maximum radiation. Gain may be omitted on applications for terrestrial stations below 29890 kHz if the gain is for other stations than fixed (FX) or aeronautical fixed (AX) stations in the 3000 to 29890 kHz band, or for terrestrial stations operating at 29890 kHz and above for experimental or mobile stations. For a negative gain (earth and space stations only), enter a dash before the value of gain.

### **Examples:**

457. -27

457/1. 0,R02                      (Gains for two antennas at the second receiver location)

457/2. 1,R02

## **Antenna Elevation.....458**

5 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: part of RAD

**Description:** Data Item 458 specifies the site's terrain elevation, in meters AMSL, at the base of a fixed station's receiver antenna. If the antenna is installed on a structure such as a tower or a building, the site elevation is specified as the ground elevation at the base of the structure.

**Input Requirement:** Data Item 458 is required except for applications for frequencies for terrestrial stations operating at 29890 kHz and above for experimental or mobile stations. Enter the site (terrain) elevation in meters AMSL.

## **Antenna Feed Point Height.....459**

5 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: part of RAD

**Description:** Data Item 459 indicates the distance (in meters) between the receiver antenna's feedpoint and the terrain.

**Input Requirement:** Data Item 459 is required except for frequencies for applications below 29890 kHz, or for terrestrial stations operating at 29890 kHz and above for experimental or mobile stations. Enter in meters, the antenna feed-point height above the terrain. In the case where the antenna is mounted pointing vertically and the signal is received from a reflector on the same structure, enter the height of the reflector above

ground. For airborne satellite terminals, enter the maximum operational altitude of the aircraft in meters AMSL.

**Examples:**

459. 10000 (an aircraft satellite antenna)  
459. 30 (a terrestrial antenna)

**Antenna Horizontal Beamwidth .....460**

4 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes GMF tag: part of RAD, sometimes entered in \*EBW, \*SBW

**Description:** Data Item 460 describes the angular beamwidth (measured in degrees at the half-power (3 dB) points) of space, earth, or terrestrial stations antennas (including experimental) employing space or earth-station techniques.

**Input Requirement:** For space, earth, or terrestrial stations (including experimental) employing space or earth-station techniques, enter the antenna beamwidth (in degrees) at the half-power (-3 dB) points. For a fractional beamwidth, prefix the decimal with a zero. Data may be omitted for terrestrial stations operating at 29890 kHz and above for experimental or mobile stations.

**Examples:**

460. 0.5  
460. 12

**Antenna Vertical Beamwidth .....461**

3 characters - 10 occurrences per each receiver location

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 461 indicates the receiver antenna vertical beamwidth, measured in degrees and normally taken as the angle between the half-power points (-3 dB points) from the pattern of the antenna.

**Input Requirement:** Data Item 461 is required for USCINCEUR assignments. It is optional for all others. Enter the half-power vertical beamwidth in degrees, measured between the -3 dB points.

**Example:**

461. 23

**Antenna Orientation .....462**

3 or 3,3 or 3,3-3 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes GMF tag: RAZ, Enter in RAD when this is a space assignment.

**Description:** Data Item 462 describes the physical direction or movement of the receiver antenna. A second entry indicating the azimuth angle of the antenna's main

beam may also be given. This second entry, given in degrees, clockwise from true north, applies only to earth stations or terrestrial stations employing earth station techniques.

**Input Requirement:** This data item is required for all earth, space, and terrestrial stations.

a. **Terrestrial Antenna:** Enter the three-digit azimuth in degrees from north or enter one of the antenna codes listed below for the receiving antenna:

- ND** - Nondirectional
- R** - Rotating through 360 degrees
- S** - Fixed direction steerable in the horizontal plane
- SSH** - Scanning horizontally through a limited sector
- SSV** - Vertical scanning (nodding)
- T** - Tracking to observe a moving object.

**Examples:**

462. 225

462. ND

b. **Earth Station:** Enter the antenna's minimum operating elevation, in degrees, consisting of a V followed by a two-digit value. Follow the vertical data with a comma and the three-digit azimuth, in degrees, from true north to the geostationary satellite. For two geostationary satellites, enter the three-digit azimuth to each satellite, separated by a slant bar. For more than two geostationary or nongeostationary satellites, enter the maximum range of the azimuth angle in three-digit values separated by a dash.

**Examples:**

462. V09,133

462. V10,132/150

462. V12,122-160

c. **Space Station:** Enter either NB for narrow beam or EC for earth coverage.

**Example:**

462. EC

**Antenna Polarization.....463**

1 character - 10 occurrences per each receiver location

Submitted to IRAC: yes                      GMF tag: RAP

**Description:** Data Item 463 is a one-character code indicating the polarization of the electromagnetic radiation from the antenna.

**Input Requirement:** Data may be omitted for terrestrial stations operating at 29890 kHz and above for experimental or mobile stations. Enter polarization of the antenna using one of the following symbols:

| <b>Code</b> | <b>Polarization</b>     |
|-------------|-------------------------|
| <b>A</b>    | Elliptical, left        |
| <b>B</b>    | Elliptical, right       |
| <b>D</b>    | Rotating                |
| <b>E</b>    | Elliptical              |
| <b>F</b>    | 45-degree               |
| <b>H</b>    | Fixed horizontal        |
| <b>J</b>    | Linear                  |
| <b>L</b>    | Left-hand circular      |
| <b>M</b>    | Oblique angled, left    |
| <b>N</b>    | Oblique angled, right   |
| <b>O</b>    | Oblique angled, crossed |
| <b>R</b>    | Right-hand circular     |
| <b>S</b>    | Horizontal and vertical |
| <b>T</b>    | Right and left circular |
| <b>V</b>    | Fixed vertical          |
| <b>X</b>    | Other or unknown        |

Data Item 463 is required for each receiver antenna as described below:

- a. Assignments above 1000 MHz that must be coordinated (by the IRAC) with the Canadian Department of Communications.
- b. Assignments to earth or space stations or to terrestrial stations (including experimental stations) employing earth or space-station techniques.
- c. Assignments to terrestrial stations at 420 MHz and above except for the optional cases shown below:
  - (1) Experimental stations
  - (2) Mobile stations
  - (3) Meteorological aids in the 1660-1700 MHz band
  - (4) TACAN/DME in the 960-1215 MHz band
  - (5) Aeronautical telemetry in the 1435-1535, 2200-2290, or 2310-2390 MHz bands

**Example:**  
463. R

## SPACE SYSTEMS

Data items 470 through 473 are to be used for unique space systems data.

### **Space Station Noise Temperature .....470**

4 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes      GMF tag: \*SNT

**Description:** Data Item 470 denotes the noise temperature of the receiving space stations.

**Input Requirement:** Data Item 470 is required only for a space station(s). Enter the space station noise temperature in degrees Kelvin.

**Example:**  
470. 200,R02

### **Earth Station System Noise Temperature .....471**

4 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes      GMF tag: \*RNT

**Description:** Data Item 471 denotes the noise temperature of the receiving earth station(s).

**Input Requirement:** Data Item 471 is required only for a receiving earth station(s). Enter the earth-station system noise temperature in degrees Kelvin.

**Example:**  
471. 60,R02

### **Equivalent Satellite Link Noise Temperature .....472**

4 characters - 10 occurrences per each receiver location

Submitted to IRAC: yes      GMF tag: \*ENT

**Description:** Data Item 472 denotes the noise temperature at the input of the earth-station receiver corresponding to the radio-frequency noise power that produces the total observed noise at the output of the satellite link. This excludes noise due to interference coming from satellite links using other satellites and from terrestrial systems.

**Input Requirement:** This entry is required for each earth station that receives signals from a geostationary space station using a simple frequency changing transponder.

Enter noise temperature in degrees Kelvin, taking into consideration all satellite links received by the earth station on the frequency indicated.

**Example:**

472. 96,R03

**JSC Area Code .....473**

1 character - 1 occurrence per each receiver location

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 473 indicates a minor area of the world in which the receiver is located and is used to reduce computer search time. The list of approved codes are listed in Annex E to this appendix.

**Input Requirement:** This one-character code is computer-generated by the JSC from Data Item 400.

**Example:**

473. A

## SUPPLEMENTARY DETAILS

Data items 500 through 531 contain various coded or free-text remarks generally relating to the assignment as a whole or clarifying the authorized area of operations.

**IRAC Notes .....500**

4 characters - 10 occurrences<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: NTS

**Description:** Data Item 500 is a 4-character code identifying the IRAC note(s) (less M notes) applicable to the frequency assignment. The five types of notes which may be entered in this data item are: C (coordination), E (emission), L (limitation), P (priority), and S (special). M (minute) notes are entered only in Data Item 501 (Notes--Free Text). A complete listing of IRAC notes is contained in Annex F to this appendix.

**Input Requirement:** Data Item 500 is used for US&P IRAC GMF assignments only. Data Item 500 is a four-character code identifying the IRAC note(s) (less M notes) applicable to the frequency assignment. Five types of notes may be entered in this data item: C (coordination), E (emission), L (limitation), P (priority), and S (special). M (minute) notes are entered only in Data Item 501 (Notes Free-Text Comments).

**Example:**

500. L116

500/2. C002

**Notes Free-Text Comments.....501**

Submitted to IRAC: yes      GMF tag: \*NTS

**Input Requirement:** For each M-note, include the M-note, a comma, and the associated amplifying text. Do not enter more than one M-note per data line.

(a two-line entry)

501/2. M003,J SMITH (202) 841-5121

1440 Characters - 1 occurrence

**Description:** Data Item 502 is used to record those agency remarks which, while pertinent to the assignment, are not intended to be part of the application processed through the IRAC. These remarks, therefore, will be excluded from the GMF.

**Example:**

502. \$

502. THIS ASSIGNMENT PROVIDES TWO ADDITIONAL VOICE CHANNELS

502. DCS 77BB01 DURING CONTINGENCY SITUATIONS.

## A-72



Submitted to IRAC: yes      GMF tag: \*AGN

**Description:** Data Item 503 is used to record agency remarks in the applications processed through the IRAC. These remarks will, therefore, be included in the GMF. Remarks not intended for the GMF must be entered in Data Item 502 (Description of Requirement).

**Input Requirement:** Enter up to 35 characters per line and precede each line with the data item number. Remarks **not** intended for the IRAC should be entered in Data Item 502.

### Example A:

503. ACME ELECTRONIC CORP TO SUPPORT IN (Inserts four lines of  
503/2. DEVELOPMENT OF EXP TELECOMMAND agency text)  
503/3. SYSTEM. FINAL TESTING TO BE HELD AT  
503/4. EXP TEST FACILITY.

### Example B:

503/2. DEV OF EXP TELECOMMAND AND TRACKING  
(In Example A above, this action would replace the second line of agency text.)

### Example C:

503/5. USAF AND USN SPONSORED. (Adds a line to Example A)

Flight levels are required for FAA coordination of frequency assignments within the US&P. Flight level data will be entered in hundreds (100s) of feet. The data entry will be formatted as: FL (followed by three digits). Leading zeros are required.

### Examples:

503. FL160 (This means 16,000 feet.)  
503. FL035 (This means 3,500 feet.)

**FAS Agenda or OUS&P Comments.....504**

72 characters - 5 occurrences<sup>2</sup>

Submitted to IRAC: yes      GMF tag: FAS

**Description:** Data Item 504 contains information that is not required to be recorded in the GMF. The data entered will appear in the FAS Agenda Action File (ACTF) file and the FRRS permanent proposal records only. It will not appear in the GMF or FRRS central databases.

**Input Requirement:** Data Item 504 is used whenever it is necessary to provide information to the FAS members reviewing application agendas. Data Item 504 is **not** entered into the GME or FRBS central databases.

**Example A:**

504. FIVE YEAR REVIEW UPDATE (A one-line example)

**Example B:**

504. THIS IS A RENEWAL OF AN EXISTING AUTHORIZATION  
504/2. ASSIGNMENT INADVERTENTLY ALLOWED TO EXPIRE  
(A two-line example)

**NATO Pooled Frequency Code Number .....505**

5 characters - 1 occurrence

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 505 provides data on communications associated with ground transmitters/receivers as well as aircraft operating in the 225-400 MHz frequency band.

**Input Requirement:** Data Item 505 is required for CINCEUR and USJFCOM assignments. For air/ground/air and air to air requirements in the 225-400 MHz band, enter a Type Special Assignment code. Use of this data item is optional for all other bands.

| <b>Code</b> | <b>Type Special Assignment</b> |
|-------------|--------------------------------|
|-------------|--------------------------------|

|          |                                   |
|----------|-----------------------------------|
| <b>B</b> | - air/ground/air requirements     |
| <b>A</b> | - air to air requirements         |
| <b>P</b> | - air/ground/air pool requirement |

Upon approval of USCINCEUR assignments only, the Frequency Management Subcommittee (FMSC) will assign, from the groupings below, a code number identifying the type and nationality of a frequency pool:

|             |                                 |
|-------------|---------------------------------|
| 0001 - 0199 | United States                   |
| 0700 - 0999 | Special Operations Pools        |
| 2000 - 2299 | Command and Miscellaneous Pools |

**Example data input:**

505. P

**Example of data returned from FMSC:**

505. P0803

# FUNCTION IDENTIFIERS

The costs associated with the operational use of the spectrum are of increasing concern to the DoD. The function identifier fields permit the analysis of spectrum usage by major, intermediate, and detailed function identifiers. These fields are the replacement for SFAF Data Item 705 for DoD organizations. The standardization of data entries in Data Items 511 and 512 are controlled at the MCEB level. Any suggested changes, additions, or deletions will be forwarded to the MCEB, J-208B Working Group. These changes can be addressed via e-mail to [frs@jsc.mil](mailto:frs@jsc.mil). Some data entries are standardized for Data Item 513 and are also controlled by the MCEB, J-208B Working Group. However, CINCs and MILDEPs may also set up any “**standard**” data entries to capture information about any function identifier not listed in the Detailed Function Identifier column in the table in Annex I to this appendix. Periodically, the MCEB J-208B Working Group will review new “**standard**” entries to determine if they should be added to the MCEB standard lists.

## **Major Function Identifier ..... 511**

30 characters - 1 occurrence

Submitted to IRAC: yes              GMF tag: \*MFI

**Description:** Data Item 511 identifies the major (or primary) function of the frequency assignment.

**Input Requirement:** This entry is required in all DoD assignments. It may be used to eliminate entries in data items 503 (Free-text), 502 (Description of Requirement), and 520 (IRAC Supplementary Details) to reduce redundant database entries when the function and purpose of the assignment is adequately described in Data Items 511, 512, and 513. Select an entry from the approved standardized Major Function Identifier column in Annex I to this appendix. Each of the following examples are related in the same order to the examples in Data Items 512 and 513.

### **Examples:**

511. AIR OPERATIONS

511. GROUND OPERATIONS

511. C3

## **Intermediate Function Identifier..... 512**

30 characters - 1 occurrence

Submitted to IRAC: yes              GMF tag: \*IFI

**Description:** Data Item 512 identifies the intermediate function of the frequency assignment.

**Input Requirement:** This entry is required in all DoD assignments. It will be used to reflect those function identifiers that are subordinate to the Major Function Identifier listed in Data Item 511. Select an entry from the approved standardized Intermediate Function Identifier column in Annex I to this appendix. Each of the following examples are related in the same order to the examples in Data Items 511 and 513.

**Examples:**

- 512. AIR TRAFFIC CONTROL
- 512. INFANTRY
- 512. DATA LINK

**Detailed Function Identifier ..... 513**

30 characters - 5 occurrences

Submitted to IRAC: yes                      GMF tag: \*DFI

**Description:** Data Item 513 identifies the detailed function of the frequency assignment.

**Input Requirement:** This entry is required in all DoD assignments if the function identifier is listed in the Detailed Function Identifier column in the table in Annex I to this Appendix. Otherwise, an entry in this data item may be made at the discretion of the applicant. If a new entry is used, subsequent entries in other frequency assignment applications/records should be identical so data may be grouped together in support of spectrum requirements analysis (SRA) activities. If available, select an entry from the approved standardized Detailed Function Identifier column in Annex I to this appendix. Otherwise, enter new function identifiers when applicable and in accordance with any applicable CINC or MILDEP directives. Each of the following examples are related in the same order to the examples in Data Items 511 and 512.

**Examples:**

- 513. GROUND CONTROL
- 513. AIRBORNE INFANTRY
- 513. LINK 11

**Supplementary Details.....520**

1080 characters - 1 occurrence<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: SUP

**Description:** Data Item 520 includes the following data, if applicable, plus any additional amplifying information that would facilitate processing:

- a. Doppler shift, if a significant factor in the particular system
- b. A general description of the assignment requirement  
(applies to experimental stations)
- c. Sounder justification
- d. Coordination data
- e. Refer to NTIA manual, Chapter 9, for further details.

**Input Requirement:** This is a free-text data item. This data item is required on several assignments, e.g., experimental stations, transportable receiving earth stations, frequency diversity, sounders, etc. Order of occurrence identifiers are **not** permitted, e.g., 520/2. To modify existing data, either delete the entire entry and replace it with new data as shown in Example A, or add new data to the existing text as shown in Example B. Additional details may be found in the *NTIA Manual*. Each line should be preceded by data item identifier 520. Do not split words between lines, and do not exceed 77 characters per line (including the data item number, punctuation, and spaces). Enter as many data lines as necessary to give a general description of the requirement, indicating specific use of the frequency(ies) or band(s).

**Example A:**

520. \$

520. COORDINATED WITH FAA AS0406

(The dollar sign deletes the existing entry, regardless of the number of lines, and permits new data to be added)

**Example B:**

520. COORDINATED WITH AF AND NAVY

(Inserts new entry or adds to existing entry for Renewal, or Modification type of transactions. See paragraph 3f(2) at the front of the document.)

**Authorized Areas.....530**

3,35 characters - 30 occurrences

Submitted to IRAC: yes                      GMF tag: \*ART, \*ARR, \*ARB

**Description:** Data Item 530 has two parts. Part one contains a 3-character coded data entry, and the second part describes geographical areas that cannot be described in data items 306/406 (Authorized Mileage Radius) or Data Item 531 (Authorized States).

**Input Requirement:** If the antenna location in Data Item 301 and/or Data Item 401 is the name of a state/country or USA, a part of a state/country or parts of several

contiguous states/countries may be entered here (for a particular transmitter or receiver location. Do not enter data here if Data Item 531 is used). The following identifying codes are available:

- ART** - For transmitting in area shown
- ARR** - For receiving in area shown
- ARB** - For transmitting and receiving in area shown

For each entry, enter the identifying code followed by a comma and the data concerning the area, using state/country abbreviations as shown in Annex C to this appendix. Use the letter N for north, S for south, E for east, and W for west when describing areas by latitude and longitude. Separate data elements by a comma.

**Examples:**

530. ART,SW WY,NE UT,NW CO  
530. ARR,S OF 33N  
530. ART,S OF 40N, E OF 095W

**Authorized States.....531**

3,35 characters - 6 occurrences

Submitted to IRAC: yes                      GMF tag: \*LST, \*LSR, \*LSB, \*EST, \*ESR, \*ESB

**Description:** Data Item 531 for assignments within the US&P and is used to include or exclude states whenever the transmitter and/or receiver antenna location is specified as an area of operation within several states.

**Input Requirement:** If the antenna location in Data Item 301 and/or Data Item 401 is specified as US, USA, or US&P for an area of operation within several states, enter the states to be included or excluded (for a particular transmitter or receiver location, do not enter data here if Data Item 530 is used). Precede each line with the data item number. Order of occurrence identifiers are not permitted, e.g. 531/2. The following identifying codes are available:

- ESB** - For transmitting and receiving in all states except those listed
- ESR** - For receiving in all states except those listed
- EST** - For transmitting in all states except those listed
- LSB** - For transmitting and receiving in the states listed
- LSR** - For receiving in the states listed
- LST** - For transmitting in the states listed.

Precede each line with one of the above identifying codes and a comma. Separate entries with commas as shown in the example. Use state abbreviations as shown in Annex C to this appendix.

**Example A:**

531. LST,CA,OR,WA

(a one-line data entry)

**Example B:**

531. EST,MD,VA,NC,SC,GA,FL,AL,TN,NY,PA (a two-line data entry)  
531. EST,VT,MI,WI,MN

## OTHER ASSIGNMENT IDENTIFIERS

Data items 701 through 716 are used to identify the major headquarters' Frequency Action Officer and miscellaneous reference numbers relating to the assignment coordination process. Some data items are used to code assignments as various types of functional groupings or provide additional technical data for certain aeronautical assignments.

**Frequency Action Officer.....701**

3 characters - 1 occurrence<sup>2</sup>

Submitted to IRAC: yes                      GMF tag: \*AGN, FAO-

**Description:** Data Item 701 is a MILDEP code identifying the person or group responsible for the assignment. This item is not used if Data Item 010 equals A.

**Input Requirement:** This data item is required for Air Force assignments. It is optional for all others.

**Examples:**

701. 322

701. T04

**Control/Request Number.....702**

15 characters - 1 occurrence

Submitted to IRAC: yes                      GMF tag: \*AGN, CNO-

**Description:** Data Item 702 is the control/request number that allows subordinate organizations to track specific frequency applications.

**Input Requirement:** Enter the organizational control number as directed by the responsible agency or CINC.

**Air Force MAJCOMs:** Use the MAJCOM symbol followed by a space, the two-digit number for the year, a dash, and the annual sequential number.

**Example:**

702. ACC 81-007

**Army Organizations in the Continental US (CONUS) Reporting to the Army**

**Communications-Electronics (C-E) Services Office:** Use the two-digit-letter code for AFC or command, followed by the last digit of the current year and sequential four-digit annual number. Use leading zeros as needed.

**Example:**

702. AC81011

**Navy Organizations:** Enter the control/request number.

**Example:**

702. N-431-88

**Europe:** Use the EUCOM control number. Use leading zeros as needed.

**Example:**

702. USAREUR81-266

**USACOM Organizations:** The Joint Frequency Management Office, Atlantic (JFMOLANT) will either assign the control/request number or provide guidance for creating a unique organizational numbering sequence.

**Type of Service.....704**

1 character - 1 occurrence

Submitted to IRAC: yes

GMF tag: \*AGN,TOS- (Only used by the Army; this tag is being phased out.)

**Description:** Data Item 704 is a code used to identify the type of service/circuit involved.

**Input Requirement:** Data Item 704 is required for CINCEUR and USACOM assignments. Enter the type of circuit code from the following list:

- S** - Simplex
- D** - Duplex
- H** - Semiduplex
- Z** - Simplex net
- T** - One directional transmission
- B** - Broadcast
- M** - Simultaneous broadcast
- N** - Radionavigation
- L** - Radiolocation
- R** - Reception only
- X** - Radiodetermination

**Example:**

704. N

**System Identifier .....705**



24 characters, 32 characters<sup>3</sup> - 1 occurrence  
Submitted to IRAC: yes                      GMF tag: \*SYS

**Description:** Data Item 705 is a two-part data item. Part one identifies the primary function or purpose of the frequency assignment and part two provides amplifying information if necessary.

**Input Requirement:** This data item is only used by non-DoD organizations. This entry may be used to eliminate entries in data items 503 (Free-text), 502 (Description of Requirement), and 520 (IRAC Supplementary Details) to reduce redundant database entries when the function and purpose of assignment is adequately described in Data Item 705. This data item is required for IRAC assignments using frequency bands 29.89-50, 162.0-174.0, or 406.1-420.0 MHz if the assignments do not contain IRAC Notes S141 or S322 in Data Item 500. Use in other frequency bands is optional, but must comply with listed identifiers. Select an entry from the approved standardized functions/purposes to be used as data entries for this data item from the list at Annex G to this appendix.

**Examples:**

705. LAW ENFORCEMENT  
705. NAVAIDS CONTROLS,RUNWAY LIGHTS  
705. MISC,FLIGHT SUPPORT

**USCINCPAC Complement/FMSC Function Number .....707**

8 characters - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 707 identifies a family grouping of frequencies having a like or similar use in the USCINCPAC area. It also identifies the function number(s) used by the Frequency Management Sub-Committee (FMSC) to specify the operational use of frequencies in the USCINCEUR area.

**Input Requirement:** USCINCPAC - Enter the number used to identify a family grouping of frequencies that have a similar use. See Example A. USCINCEUR – Enter

the function number(s) used by the FMSC to specify the operational use of frequencies. See Example B.

**Example A:**

707. 34120    (USCINCPAC)

**Example B:**

---

<sup>3</sup>A maximum of 35 characters, including spaces and the comma, are permitted for this entry.

707. 100  
707/2. 101

(USCINCEUR)  
(USCINCEUR – second occurrence)

**Host Country Docket Number .....710**

12 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 710 records the docket number assigned by the host (soil) country to the frequency authorization.

**Input Requirement:** Enter the docket/case if a number is assigned by the soil (host) country to the frequency authorization.

**Examples:**

710. F84-171                                      (GE)  
710. 2AAZ0191                                   (FMSC)

**Aeronautical Service Range and Height.....711**

6 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 711 is the flight level and service radius of aeronautical navigational aids and air traffic control assignments for frequencies above 29,890 kHz and low frequency beacons.

**Input Requirement:** Provide the flight level and service range of all aeronautical navigational aids and air traffic control assignments for frequencies above 29890 kHz and for low-frequency beacons. Enter service range (in nautical miles) using three digits followed by flight level (in thousands of feet) using three digits. The example indicates a 250-mile range at 50000 feet. **(For non-EUCOM frequency assignments, this type of data is entered in data items 306/406 and 503 as a flight level, in hundreds of feet.)**

**Example:**

711. 250050

**Transmitter FMSC MRFL Number .....715**

(14 characters - 1 occurrence)

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 715 records the assignment serial number as registered in the FMSC Master Radio Frequency List (MRFL).

**Input Requirement:** Required in all assignments forwarded to NATO. Enter the transmitter FMSC MRFL serial number of the frequency assignment as recorded in the FMSC MRFL. The entry is formatted: **CCCSYYYYnnnnn** where:

**CCC** or **C** = ITU county code, e.g. "BEL" for Belgium or "G " for UK

**S** or **SSS** = one or three character sub-country code, nationally managed, padded with spaces as necessary, can contain any combination of letters, digits or spaces

**YYYY** = four digit calendar year

**nnnnn** = 5 digits sequential number starting at 1 every year.

**Example:**

715. USAR199900371

715. G AF200001372

**Usage Code .....716**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 716 is a coded entry denoting the usage and category of circuits.

**Input Requirement:** Data Item 716 is required for all DoD assignments. Enter one of the following codes:

- 1 - Wartime circuits are required to be operated or to be ready for operation in peacetime (terminals are to be fully equipped with the appropriate installation and personnel).
- 2 - Wartime circuits that have a limited capability in peacetime for exchanging traffic between the planned terminals (equipment and personnel are shared with other Usage Code 2 circuits).
- 3 - Required for wartime only (equipment is, or will be, available).
- 4 - Required for occasional and temporary usage for training exercises or maneuver purposes.
- 5 - Required for the deployment phase of contingency operations.
- 6 - Required for the employment phase of contingency operations.
- 7 - Required for peacetime only.

**Example:**

716. 3

## ADDITIONAL INFORMATION

In this data category, only data items 803 through 804 and 901 through 953 will be stored in the database record.

### **Coordination Data/Remarks .....801**

60 characters 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 801 indicates the agencies with which coordination has been effected and contains any other free text remarks appropriate for processing the assignment.

**Input Requirement:** List agencies with which coordination has been effected (e.g., FAA, GAFC, etc.) and include any remarks that may be appropriate for processing the assignment. Data Item 801 is not stored in the FRRS central database. Order of occurrence identifiers are not permitted, e.g. 801/2.

**Example:**

801. GAFC 021200Z AUG 82

### **Requestor Data .....803**

60 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 803 reflects the name and DSN number of the individual submitting the request.

**Input Requirement:** This data item is required. Provide name and telephone number of individual submitting request.

**Example:**

803. BROWN, 281-3824

**Tuning Range/Tuning Increments .....804**

60 characters - 30 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 804 indicates the tuning range and the tuning increments of the equipment used on this record.

**Input Requirement:** Data Item 804 is required for USCINCEUR and USCINCCENT assignments. It is optional for all others. Enter the tuning range of the equipment. Enter units followed by the lower-and upper-frequency of the equipment. Separate frequencies with a dash. Also enter one of the following to indicate the largest tuning increment of the

frequency(ies) listed in Data Item 110. Separate entries with a comma. Order of occurrence identifiers are not permitted, e.g. 804/2.

## TUNING INCREMENTS

### CONTINUOUSLY TUNABLE

10 HZ

100 HZ (.1 KHZ)

500 HZ (.5 KHZ)

1 KHZ

5 KHZ

10 KHZ

12.5 KHZ

20 KHZ

25 KHZ

50 KHZ

75 KHZ

100 KHZ

125 KHZ

200 KHZ

250 KHZ

500 KHZ

1 MHZ (1000 kHz)

CRYSTAL (not tunable)

OTHER (explain with text)

### Example:

804. M250-300, 100 KHZ

## Date Response Required.....805

8 characters - 1 occurrence

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 805 is the date by which either an assignment or nonassignment of requested frequencies is required to provide notifications to potential users.

**Input Requirement:** Data Item 805 is required only for frequency proposals to be processed within the European theater. It is optional for all others. Except in an unusual circumstance, this date should be at least 65 days from the date of the message release or initial request date. Enter the date as YYYYMMDD. Data Item 805 is not stored in the FRRS central database.

### Example:

805. 19820315

## Indication if Host Nominations Are Acceptable.....806

60 characters - 10 occurrences

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 806 indicates the user's acceptance or rejection of host-nation nominations for substitute frequencies entered in Data Item 110.

**Input Requirement:** Data Item 806 is required for CINCEUR assignments. It is optional for all others. Enter YES followed by a statement indicating band limitations

and channelization requirements if host nation nominations are acceptable to fulfill the requirement. Enter NO followed by the reason why if other nominated frequencies cannot be used. Data Item 806 is not stored in the FRRS central database. Order of occurrence identifiers are not permitted, e.g. 806/2.

**Example:**

806. YES, BAND LIMITATIONS ARE...

**Frequencies to be Deleted .....807**

60 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 807 lists the frequency(ies) that can be deleted upon assignment of the requested frequencies, the host docket numbers or GE case numbers and MRFL numbers when available.

**Input Requirement:** Data Item 806 is required only on frequency proposals to be processed within the European theater. List the frequencies that can be deleted upon assignment of the requested frequencies along with USCINCEUR Frequency Management Field Office Brussels, Belgium and/or GE case numbers and MRFL numbers when available. Leave this data item blank if no frequencies will be deleted. Data Item 807 is not stored in the FRRS central database. Order of occurrence identifiers are not permitted, e.g. 807/2.

**Examples:**

807. K14.5,USAREUR-81-266,

807. F61-836,131101

**Record Status.....901**

(1 character - 1 occurrence)

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 901 provides the status of an assignment in the master database.

**Input Requirement:** This data item is used by DoD only. Enter one of the following codes:

**A** - Active or **I** - Inactive

**Example:**

901. A

**Proposal Status.....903**

4 characters - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 903 indicates the current (and previous statuses for historical purposes) of each DCF proposal. This data item is used in conjunction with Data Item 904.

**Input Requirement:** Some status codes are entered automatically by NTIA and DCF software. The list of acceptable status codes varies from one DCF to another. (See Annex H for a list of standardized codes used throughout the FRRS. See the DCF user's manual and local standard operating procedures (SOPs) for a more complete list of codes.). JSMSw software only stores the current status.

**Example:**

903. ACT (This record has been transferred to another DCF for action.)

**Status Date .....904**

8 characters - 20 occurrences

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 904 indicates the date automatically entered as YYYYMMDD for a "Proposal Status" (Data Item 903). This date changes as the action/status of the proposal changes within the processing cycle.

**Input Requirement:** This is a computer-generated date entered as YYYYMMDD. It is automatically entered whenever the 'Proposal Status' is changed in CCF or DCF software. In JSMSw software, the data must be manually entered. JSMSw only stores the date of the current status.

**Example:**

904. 19951231

**Proposal Date-Time-Group.....905**

14 characters - 1 occurrence

Submitted to IRAC: no GMF tag: None

**Description:** Data Item 905 is the DTG on an AUTODIN message. (This data item is used in conjunction with Data Item 906.)

**Input Requirement:** This data item is used by DoD only. Data Item 905 is retrieved automatically from the header of the up-loaded proposal message in DCFs. In other instances, this data item must be entered manually.

**Example:**

905. 100800ZFEB96

**Originator .....906**

66 characters - 1 occurrence



Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 906 describes the originator of the proposal as noted in the FM line of an AUTODIN message. (This data item is used in conjunction with Data Item 905.)

**Input Requirement:** This data item is used by DoD only. It is automatically entered from the FM (originator) line of an AUTODIN (Defense Message System) proposal message.

**Example:**

906. HQ ACC LANGLEY AFB VA

**Validation Status.....907**

1 character - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 907 indicates the proposal's validation status.

**Input Requirement:** Data Item 907 is a computer-generated DCF or JSMSw software data item. The following codes are used:

- Y**        -        - Record passed validation.
- N**        -        - Record did not pass validation.
- O**        -        - Record did not pass validation and the lack of validation was overridden.
- (Blank)** -        - Not validated.

**Example:**

907. Y

**Exercise Project.....910**

20 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 910 provides the Project or Exercise name associated with a temporary assignment or proposal.

**Input Requirement:** This data item is required in USCINCCENT assignments and optional in all others.

**Example:**

910. GUARDRAIL

**Date of Last Transaction .....911**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 911 provides the date the record was last modified by a database transaction. This data item changes whenever any aspect of a record is changed such as when administrative, modification or delete transaction is posted to the central database master record.

**Input Requirement:** This data item is computer-generated as YYYYMMDD by the JSC central database computer.

**Example:**

911. 19920212

**Participant Code .....922**

4 characters - 20 occurrences

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 922 identifies the major FRRS participant and is used to distribute data to DCFs. The list of approved entries are: AIR, ARM, COE, EUR, JNS, LAN, MGU, NAV, PAC, PROD, and WSM. This data item can also be used to select records for special outputs production.

**Input Requirement:** Data Item 922 is a JSC computer-generated output data item.

**Example:**

922. EUR

922/2. PAC

922/3. AIR

**Data Source Indicator .....924**

4 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 924 is used to identify the source or organization from which the data record was received:

|             |   |
|-------------|---|
| <b>FMSC</b> | - FMSC/MRFL data from NATO              |
| <b>CAN</b>  | - Industry Canada                       |
| <b>FCC</b>  | - Federal Communications Commission     |
| <b>FRRS</b> | - Frequency Resource Record System      |
| <b>GMF</b>  | - Government Master File                |
| <b>ITU</b>  | - International Telecommunication Union |

**RA** - Radio Astronomy data from the National Research Council

**Input Requirement:** Data Item 924 is a JSC computer-generated output data item.

**Example:**

924. ITU

**Semi-Bandwidth.....926**

12 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 926 represents, in kilohertz, half of the emission bandwidth of the largest bandwidth given for the assignment.

**Input Requirement:** Data Item 926 is a JSC computer-generated output data item.

**Example:**

926. 50

**Date of Entry.....927**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 927 is the date (YYYYMMDD) the assignment was initially entered into the FRRS database system.

**Input Requirement:** Data Item 927 is a JSC computer-generated output data item.

**Example:**

927. 19951230

**Date of Receipt.....928**

8 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** This is the Date (YYYYMMDD) of receipt of the most recent transaction at the JSC.

**Input Requirement:** Data Item 928 is a JSC computer-generated output data item.

**Example:**

928. 19951229

**PC ID .....950**

10 characters - 1 occurrence

Submitted to IRAC: no                      GMF tag: None

**Description:** Data Item 950 identifies the PC at which the transaction was originated. Normally, this occurs at organizational levels below where the serial number can be assigned. This data item is computer-generated by the JSMSw PC for new transactions.

**Input Requirement:** Input to this data item is required whenever there is no serial number in the record, and this input will normally be formatted as ACCCYNNNN where:

**ACCC**    =    Up to four (4) characters, numerics or spaces unique to each PC. The assignment of these unique characters to a particular PC will be managed by the CINC or MILDEP having jurisdiction over the area/organization submitting PC-originated proposals.

The first character AA≡ is coded from the table below:

- A** - Army organizations within CONUS
- N** - Navy organizations within CONUS
- F** - Air Force organizations within CONUS
- P** - Organizations in the CINCPAC area
- L** - Organizations in the CINCUSJFCOM area
- E** - Organizations in the CINCEUR area
- S** - Organizations in the CINCSOUTH area
- C** - Organizations in the CINCCENT area

The next three characters “CCC” are uniquely assigned by the CINC or MILDEP.

**YY**        =    Last two digits of the calendar year

**NNNN** = Individual unique number assigned to each proposal

**Example:**

950. L4MD920001

**IRAC Security Classification .....952**

1 character - 1 occurrence

Submitted to IRAC: yes                      GMF tag: CLA

**Description:** Data Item 952 is the classification of the GMF record that is maintained by NTIA.

**Input Requirement:** Data Item 952 is computer-generated for DoD organizations. It is only used internal to the JSC for administrative record management only.

**U**    -    UNCLASSIFIED

**C** - CONFIDENTIAL

**Example:**

952. C

**IRAC Declassification Date .....953**

10 characters - 1 occurrence

Submitted to IRAC: yes          GMF tag: CDD

**Description:** Data Item 953 is the declassification date (DEYYYYMMDD) of a GMF record.

**Input Requirement:** Data Item 953 is computer-generated for DoD organizations. It is only used internal to the JSC for administrative record management.

**Example:**

953. DE19951230

**Agency Action Number .....956**

10 characters - 1 occurrence

Submitted to IRAC: yes          GMF tag: ACN

**Description:** Data Item 956 is a data entry used by Non-DoD organizations to track transactions. It is formatted with 4 characters (AAAA) selected by the submitting organization, followed by a two digit year (YY) and a four digit sequential number (nnnn).

**Input Requirement:** Data Item 956 is optional and assigned by the user entering the transaction into the system. This data item is not stored in the FRRS central database.

**Example:**

956. J      970001

**Review Year .....957**

4 characters - 1 occurrence

Submitted to IRAC: yes          GMF tag: RYR

**Description:** Data Item 957 contains the year (in the format YYYY) that the assignment was originally entered into the GMF or last modified in the GMF.

**Input Requirement:** Data Item 957 is used by non-DoD organizations. This field is used ONLY when no other changes are required (i.e., all parameters as listed are up-to-date), and it is necessary to indicate a review of an assignment has been completed. This data item is not stored in the FRRS central database.

**Example:**  
957. 1997

**Routine Agenda Item .....958**

1 character - 1 occurrence

Submitted to IRAC: yes            GMF tag: RTN

**Description:** Data Item 958 is a coded data entry that indicates the type of NTIA FAS agenda on which the application will be processed.

**Input Requirement:** Data Item 958 is computer-generated by NTIA for its internal processing of frequency assignment applications. It is an output data item only.

**R**        -    Routine Application  
**(Blank)** -    Regular Application  
**A**        -    AAG Application  
**M**        -    MAG Application

**Example:**  
958. M

**Circuit Remarks .....959**

40 characters - 30 occurrences

Submitted to IRAC: yes            GMF tag: REM

**Description:** Data Item 959 is used by NTIA to record any additional data to be submitted by the applicant that can not be accommodated in any of the other GMF data items. Upon approval of the record by NTIA, the circuit remarks stored in the GMF are also stored in the FRRS central database, the distributed databases, and JSMSw databases for future reference. The data is also parsed and stored in the appropriate individual data items.

**Input Requirement:** Data Item 959 is computer-generated from 36 individual data items when the record is sent to NTIA.

**Examples:**  
959. REM01 \*ARB,39N43N098W099W  
959. REM03 \*ART,3915N4320N10016W1012W

**FCC File Number .....963**

16 characters - 1 occurrence

Submitted to IRAC: yes            GMF tag: \*FLN

**Description:** Data Item 963 is an FCC-assigned file number, issued to non-government stations operating on government frequencies or government stations operating on nongovernment frequencies, which is unique to each FCC license.

**Input Requirement:** Data Item 963 is an output data item computer-generated by the FCC. This data item is not stored in the FRRS central database.

**Example:**

963. 0001-EX-AA-98

**TX Aircraft Altitude .....964**

3 characters - 10 occurrence

Submitted to IRAC: no                      GMF tag: XAD for airborne satellite terminals

**Description:** Data item 964 contains the maximum operational altitude of an aircraft with a transmitter earth station aboard it. The entry will be in thousands of feet.

**Input Requirement:** Data Item 964 is computer-generated by the JSMS<sub>W</sub> PC. It is converted from the entry in Data Item 359. This data item is not stored in the FRRS central database.

**Example:**

964. 3                      (for 3,000 feet)

**RX Aircraft Altitude .....965**

3 characters - 10 occurrences

Submitted to IRAC: no                      GMF tag: RAD for airborne satellite terminals

**Description:** Data Item 965 contains the maximum operational altitude of an aircraft with a receiver earth station aboard it. The entry will be in thousands of feet.

**Input Requirement:** Data Item 965 is computer-generated by the JSMS<sub>W</sub> PC. It is converted from the entry in Data Item 459. This data item is not stored in the FRRS central database.

**Example:**

965. 50                      (for 50,000 feet)

## JCEOI RELATED ITEMS

SFAF data item numbers 982-999 are used to support the integration of standard spectrum management software and the new Joint Communications-Electronics Operation Instruction (JCEOI) software, Joint Automated CEOI System (JACS). Data items 982 through 998 are interrelated in that an entry in any of the data items are related to an entry in any of the other data items. Not all items have to be filled to complete the information needed for a net in the JCEOI Master Net List.

### **JCEOI Line Number.....982**

5 characters – 1 occurrence  
Submitted to IRAC: no

**Description:** Data Item 982 is the line number associated with a JCEOI master net list entry.

**Input Requirement:** None. This is a JACS computer-generated output data item.

**Examples:**

982. 00001  
982. 01373

### **JCEOI Master Net List Name.....983**

16 characters – 1 occurrence  
Submitted to IRAC: no

**Description:** Data Item 983 is the name entered in the JCEOI Master Net List in JACS. This is a required item for the JCEOI.

**Input Requirement:** Enter the name of the net the assigned frequency will support. Revised Battlefield Electronics CEOI System / Revised DTD (Data Transmission Device) Software (RBECS/RDS) will only support 16 characters. Common Tier Three (CT3) will only support 15 characters and will truncate the last character.

**Examples:**

983. CINC1  
983. JTF17  
983. 3BDE CMD



## **Net Frequency Range.....984**

11-11 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 984 is the frequency range within which the JACS software must select a frequency for the net listed in data item 983, JCEOI Master Net List Name.

**Input Requirement:** This is a required item for the JCEOI. (The format is the same as SFAF data item 110 frequency band (11-11) entries.) Enter the frequency band from which the net operating frequency will be selected by the JACS software.

### **Examples:**

984. K3000-29999

984. M30-79.975

984. M88000-G110

## **Joint Restricted Frequency List (JRFL) Protection Code .....985**

1 or 1/2 (1 slash 2) characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 985 may have two elements. The first element contains the JRFL protection code that is applicable to the frequency assigned to this net. The first data element is followed by a slant bar and a locally assigned priority code. (Note when this data item is blank the frequency assigned to this net will not be included in the JRFL.

**Input Requirement:** If the frequency assigned to this net is to be included in the JRFL, enter the protection code from the list below that was requested for the corresponding master net list entry. If required, then enter a slash followed by the assigned priority code.

**T** - Taboo. Safety of life, stop buzzer, etc. If priorities are used, Taboo should always be A1.

**G** - Guarded. Frequencies with interest to the Intelligence sections.

**P** - Protected. Frequencies that have importance to the operation, but may be jammed because of geographic or time separation.

The locally assigned priority code consists of a letter followed by a number in the range A1 through Z9, with A1 being the highest.

### **Examples:**

985. T

985. G/F2

985. P/A4

## **Net Tactical Call Word.....986**

15 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 986 is the tactical call word assigned to the net. A tactical call word is defined as a pronounceable word which identifies a communications facility, a command, an authority, an activity, or a unit.

**Input Requirement:** Enter a Y if requesting a tactical call word, or enter the call word if a specific word is requested. The word assigned by JACS may not be the same as requested.

### **Examples:**

986. Y

986. ALL AMERICAN

986. EAGLE

## **Net Tactical Call Sign.....987**

3 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 987 is the tactical call sign assigned to the net. A call sign is defined as any combination of alphanumeric characters or phonetically pronounceable characters (trigraph), which identifies a communications facility, a command, an authority, an activity or unit; used primarily for establishing and maintaining communications.

**Input Requirement:** Enter a Y if requesting a tactical call sign. The call sign will be assigned by JACS, if requested.

### **Example:**

987. Y

## **Net Tactical Air Designator (TAD).....988**

5 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 988 is the TAD assigned to the net. A tactical air designator is a series of alphanumeric characters which can be used to identify frequencies and nets. These designators are usually listed in the Air Tasking Order (ATO) to prevent inadvertent disclosure of classified information.

**Input Requirement:** Enter the TAD, if known.

**Examples:**

988. 3

988. 115

**Net Color Word.....989**

16 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 989 is the Color Word assigned to the net. A tactical color word is a series of alpha characters which can be used to identify frequencies and nets. These words are usually listed in the Air Tasking Order (ATO) to prevent inadvertent disclosure of classified information.

**Input Requirement:** Enter the Color Word, if known. This item must contain information if data is entered in Data Item 990 Color Number.

**Examples:**

989. BLUE

989. ORANGE

**Net Color Number.....990**

2 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 990 contains a two digit Color Number assigned to the net. These numbers are usually listed in the Air Tasking Order (ATO) to prevent inadvertent disclosure of classified information.

**Input Requirement:** Enter the Color Number, if known. A leading zero is required for numbers less than ten. This data item must contain information if data is entered in data item 989 Color Word.

**Examples:**

990. 22

990. 03

## **Net Restoral Priority.....991**

3 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 991 is the restoral priority assigned to the net. The first character identifies the type of network, and the second and third numbers prioritize the net within that type of network. This priority will be established by the JTF commander.

**Input Requirement:** Enter the restoral priority of the net, if any.

### **Examples:**

991. H15

991. A01

## **Net Push Number.....992**

3 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 992 is the Push Number assigned to the net. A push number is a series of alphanumeric characters assigned to a frequency to assist the aircrew in moving to an alternate frequency.

**Input Requirement:** Enter the Push Number of the net, if any.

### **Examples:**

992. 15

992. 123

## **Band Usage.....993**

1 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 993 is the Band Usage of the net, if required. This character defines the frequency band label the net uses.

**Input Requirement:** Enter the corresponding Band Usage of the net, if required.

**H** – Hertz

**K** – KiloHertz

**M** - MegaHertz

**Examples:**

993. K

993. M

**Check Sum.....994**

1 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 994 is the check sum for the frequency. The frequency check sum is the units digit of the number derived from adding together the individual digits in the frequency. For example, the check sum for M235.625 would be 3 (2+3+5+6+2+5=23).

**Input Requirement:** None. This is a JACS computer-generated output data item.

**Examples:**

994. 3

994. 8

**COMSEC Keymat.....995**

15 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 995 contains the short title of the communications security (COMSEC) keying materiel (Keymat) that is used for the net.

**Input Requirement:** Enter the COMSEC Keymat for the net, if required.

**Examples:**

995. USKAT 619

995. USKAT 3120

**Circuit Type, Line Item, Group Category.....996**

8 characters – 1 occurrence

Submitted to IRAC: no

**Description:** Data Item 996 contains the Circuit Type (first two alpha characters), Line Item (next three digits), and Group Category (last three alphanumeric positions).

**Input Requirement:** Enter the Circuit Type, Line Item, and Group Category for the net, if required.

**Examples:**

996. AO164ZA1  
996. ED253HO3

**JCEOI Special Net Instructions.....997**

63 characters – 1 occurrence  
Submitted to IRAC: no

**Description:** Data Item 997 contains any special instructions applicable to the net.

**Input Requirement:** Enter any applicable special instructions pertaining to the net listed in data item 983, JCEOI Master Net List Name.

**Examples:**

997. AOR WIDE SAR EXERCISE OPERATIONS  
997. SPECINST  
997. RESTORAL

**Net Notes.....998**

3 characters – 1 occurrence  
Submitted to IRAC: no

**Description:** Data Item 998 contains the Net Notes associated with any Special Instructions (SPECINST).

**Input Requirement:** Enter the corresponding abbreviation for the SPECINST, if required. If this data item is to be used, Data Item 997 must contain SPECINST.

**Examples:**

998. Y11  
  
998. AA1

**Guard Requirements.....999**

20 characters – 50 occurrences  
Submitted to IRAC: no

**Description:** Data Item 999 is a listing of organizations required to guard (monitor) the net.

**Input Requirement:** Enter organizations required to guard this net, if any.

**Examples:**

999. JTF CMD CTR

999/2. MARFOR CMD CTR

999/3. AFFOR CMD CTR

999/4. G-NMZ,TR,CV8

**End notes**

<sup>1</sup> *MCEB-M-019098, 26 Jan 1998, DoD Frequency Assignment Security Classification Guide*

<sup>2</sup> This data item is reserved for use by MILDEP, CINC, and Agency frequency management offices or their subordinate organizations when its use has been delegated to lower levels.

## ANNEX A - LIST OF STATION CLASSES WITH DEFINITIONS

(alphabetical by classes)

1. The following list of station class codes are authorized for use in Data Item 113. Where a definition is followed by the parenthetical expression "(RR)," it is an indication that the definition is in the ITU Radio Regulations.

2. The suffix "R" shall be added to the established class of station (STC) symbol only if the station is to be used primarily as a repeater in the bands:

29.89-50.00 MHz (exclusive government bands).  
138.00-144.00 MHz.  
148.00-149.90 MHz.  
150.05-150.80 MHz.  
162.00-174.00 MHz.  
406.10-420.00 MHz.

For this purpose, a repeater consists of a radio transmitter, a radio receiver and coupling between the two so as to retransmit unchanged in intelligence the received signal.

3. The following definitions of Stations and associated Station Class (STC-see Section 9.8.2, Para. 15a. through 15c.) symbols are used on U.S. government frequency assignments as applicable.

**FAB**--Aeronautical Broadcast Station: An aeronautical station which makes scheduled broadcasts of meteorological information and notices to airmen. (In certain instances, an aeronautical broadcast station may be placed on board a ship.)

**TB**--Aeronautical Earth Station: An earth station in the fixed-satellite service or in some cases in the aeronautical mobile-satellite service located at a specified fixed point on land to provide a feeder link for the aeronautical mobile-satellite service. (RR)

**AX**--Aeronautical Fixed Station: A station in the aeronautical fixed service. (RR)

**ALA**--Aeronautical Marker Beacon Station: A radionavigation land station in the aeronautical radionavigation service which employs a marker beacon.

**EJ**--Aeronautical Mobile-Satellite Space Station: A space station in the aeronautical mobile-satellite service. (RR)

**ALC**--Aeronautical Radar Beacon (racon) Station: A land station in the aeronautical radionavigation service which employs a radar beacon (racon).

**ALB**--Aeronautical Radiobeacon Station: A radiobeacon station in the aeronautical radionavigation service intended for the benefit of aircraft.

**AL**--Aeronautical Radionavigation Land Station: A land station in the aeronautical radionavigation service not intended for use while in motion.

**AM**--Aeronautical Radionavigation Mobile Station: A mobile station in the aeronautical radionavigation service intended to be used while in motion or during halts at unspecified points.

**TZ**--Aeronautical Radionavigation-Satellite Earth Station: A fixed earth station in the aeronautical radionavigation-satellite service.

**TO**--Aeronautical Radionavigation-Satellite Mobile Earth Station: A mobile earth station in the aeronautical radionavigation-satellite service. (RR)

**EO**--Aeronautical Radionavigation-Satellite Space Station: A space station in the aeronautical radionavigation-satellite service. (RR)

**FA**--Aeronautical Station: A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea. (RR)

**FG**--Aeronautical Station (OR): An aeronautical station in the aeronautical mobile (OR) service. (RR)

**FD**--Aeronautical Station (R): An aeronautical station in the aeronautical mobile (R) service. (RR)

**FLEA**--Aeronautical Telemetry Land Station: A telemetry land station used in the flight testing of manned or unmanned aircraft, missiles, or major components thereof.

**MOEA**--Aeronautical Telemetry Mobile Station: A telemetry mobile station used for transmitting data directly related to the airborne testing of the vehicle. (or major components), on which the station is installed.



**FLU**--Aeronautical Utility Land Station: A land station located at airdrome control towers and used for control of ground vehicles and aircraft on the ground at airdromes.

**MOU**--Aeronautical Utility Mobile Station: A mobile station used for communication at airdromes with the aeronautical utility land station, the airdrome control station, the FAA flight service station, ground vehicles, and aircraft on the ground. (All transmissions shall be subject to the control of the airdrome control station and shall be discontinued immediately when so requested by the airdrome control operators.)

**TJ**--Aircraft Earth Station: A mobile earth station in the aeronautical mobile-satellite service located on board an aircraft. (RR)

**MA**--Aircraft Station: A mobile station in the aeronautical mobile service, other than a survival craft station, located on board an aircraft. (RR)

**FAC**--Airdrome Control Station: An aeronautical station providing communication between an airdrome control tower and aircraft.

**AMA**--Altimeter Station: A radionavigation mobile station in the aeronautical radionavigation service which employs a radio altimeter.

**TY**--Base Earth Station: An earth station in the fixed-satellite service or in some cases in the land mobile-satellite service located at a specified fixed point or within a specified area on land to provide a feeder link for the land mobile-satellite service. (RR)

**FB**--Base Station: A land station in the land mobile service. (RR)

**EB**--Broadcasting-Satellite Space Station (sound broadcasting): A space station in the broadcasting-satellite service (sound broadcasting). (RR)

**EV**--Broadcasting-Satellite Space Station (television): A space station in the broadcasting-satellite service (television). (RR)

**BC**--Broadcasting Station (sound): A station (sound) in the broadcasting service. (RR)

**BT**--Broadcasting Station (television): A station (television) in the broadcasting service. (RR)

**TI**--Coast Earth Station: An earth station in the fixed-satellite service or in some cases in the maritime mobile-satellite service located at a specified fixed point on land to provide a feeder link for the maritime mobile-satellite service. (RR)

**FC**--Coast Station: A land station in the maritime mobile service. (RR)

**DGP**--Differential-Global-Positioning-System (DGPS) Station: a terrestrial station used for the transmission of differential correction information to DGPS receivers aboard aircraft for navigation.

**TW**--Earth Exploration-Satellite Earth Station: An earth station in the Earth exploration-satellite service. (RR)

**EW**--Earth Exploration-Satellite Space Station: A space station in the Earth exploration-satellite service. (RR)

**TP**--Earth Station (receiving): An earth station used for receiving. (RR) (TP is not used on applications.)

**XM**--Experimental Composite Station: An experimental station used in experimental operations of a complex nature not readily specified or used in operation which is a composite of two or more of the established experimental categories.

**XC**--Experimental Contract Developmental Station: An experimental station used for the evaluation or testing under Government contract of electronics equipment or systems in a design or development stage.

**XD**--Experimental Developmental Station: An experimental station used for evaluation or testing of electronics equipment or systems in a design or development stage.

**XE**--Experimental Export Station: An experimental station intended for export and used for the evaluation or testing of electronics equipment or systems in the design or development stage.

**XR**--Experimental Research Station: An experimental station used in basic studies concerning scientific investigations looking toward the improvement of the art of radiocommunications.

**EX**--Experimental Station: A station utilizing radio waves in experiments with a view to the development of science or technique. This definition does not include amateur stations. (RR) (EX is not used on applications.)

**XT**--Experimental Testing Station: An experimental station used for the evaluation or testing of electronics equipment or systems, including site selection and transmission path surveys, which have been developed for operational use.

**TC**--Fixed-Satellite Earth Station: An earth station in the fixed-satellite service. (RR)

**EC**--Fixed-Satellite Space Station: A space station in the fixed-satellite service. (RR)

**FX**--Fixed Station: A station in the fixed service. (RR)

**FLEB**--Flight Telemetry Land Station: A telemetry land station the emissions of which are used for telemetry to a balloon; to a booster or rocket, excluding a booster or rocket in orbit about the Earth or in deep space; or to an aircraft, excluding a station used in the flight testing of an aircraft.

**MOEB**--Flight Telemetry Mobile Station: A telemetry mobile station used for transmitting data from an airborne vehicle, excluding data related to airborne testing of the vehicle itself, (or major components thereof).

**FAT**--Flight Test Station: An aeronautical station used for the transmission of essential communications in connection with the testing of aircraft or major components of aircraft.

**ALG**--Glide Path (Slope) Station: A radionavigation land station which provides vertical guidance to aircraft during approach to landing.

**FXH**--Hydrologic and Meteorological Fixed Station: A fixed station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**FLH**--Hydrologic and Meteorological Land Station: A land station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**MOH**--Hydrologic and Meteorological Mobile Station: A mobile station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**ES**--Inter-Satellite Space Station: A space station in the inter-satellite service. (RR)

**VA**--Land Earth Station: An earth station in the fixed-satellite service or in some cases in the mobile-satellite service located at a specified point or within a specified area on land to provide a feeder link for the mobile-satellite service. (RR)

**TU**--Land Mobile Earth Station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent. (RR)

**EU**--Land Mobile-Satellite Space Station: A space station in the land mobile-satellite service. (RR)

**ML**--Land Mobile Station: A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent. (RR)

**FL**--Land Station: A station in the mobile service not intended to be used while in motion. (RR)

**ALL**--Localizer Station: A radionavigation land station in the aeronautical radionavigation service which employs an Instrument Landing System Localizer.

**RNL**--Loran Station: A long distance radionavigation land station transmitting synchronized pulses. Hyperbolic lines of position are determined by the measurement of the difference in the time of arrival of these pulses.

**FCB**--Marine Broadcast Station: A coast station which makes scheduled broadcasts of time, meteorological, and hydrographic information.

**NLC**--Maritime Radar Beacon (racon) Station: A land station in the maritime radionavigation service which employs a radar beacon (racon).

**NLM**--Maritime Radiobeacon Station: A radiobeacon station in the maritime radionavigation service intended for the benefit of ships.

**EG**--Maritime Mobile-Satellite Space Station: A space station in the maritime mobile-satellite service. (RR)

**NL**--Maritime Radionavigation Land Station: A land station in the Maritime radionavigation Service not intended for use while in motion.

**TX**--Maritime Radionavigation-Satellite Earth Station: A fixed earth station in the maritime radionavigation-satellite service. (RR)

**TQ**--Maritime Radionavigation-Satellite Mobile Earth Station: A mobile earth station in the maritime radionavigation-satellite service. (RR)

**EQ**--Maritime Radionavigation-Satellite Space Station: A space station in the maritime radionavigation-satellite service. (RR)

**SM**--Meteorological Aids Base Station: A land station in the meteorological aids service not intended for use while in motion.

**SA**--Meteorological Aids Mobile Station: A mobile station in the meteorological aids service intended to be used while in motion or during halts at unspecified points.

**SMD**--Meteorological Radar Station: A station in the meteorological aids service employing radar.

**TM**--Meteorological-Satellite Earth Station: An earth station in the meteorological-satellite service. (RR)

**EM**--Meteorological-Satellite Space Station: A space station in the meteorological-satellite service. (RR)

**UA**--Mobile Earth Station: An earth station in the mobile-satellite service intended to be used while in motion or during halts at unspecified points. (RR)

**EI--Mobile-Satellite Space Station:** A space station in the mobile-satellite service. (RR)

**MO--Mobile Station:** A station in the mobile service intended to be used while in motion or during halts at unspecified points. (RR)

**OE--Oceanographic Data Interrogating Station:** A station in the maritime mobile service the emissions of which are used to initiate, modify or terminate functions of equipment directly associated with an oceanographic data station, including the station itself.

**OD--Oceanographic Data Station:** A station in the maritime mobile service located on a ship, buoy, or other sensor platform the emissions of which are used for transmission of oceanographic data.

**ALO--Omnidirectional Range Station:** A radionavigation land station in the aeronautical radio-navigation service providing direct indication of the bearing (omnibearing) of that station from an aircraft.

**MAP--Portable Aircraft Station:** A portable station operating in the aeronautical mobile service.

**MLP--Portable Land Mobile Station:** A portable station operating in the land mobile service.

**MOP--Portable Mobile Station:** A portable station operating in the mobile service.

**MRP--Portable Radiolocation Station:** A portable station operating in the radiolocation service.

**MSP--Portable Ship Station:** A portable station operating in the maritime mobile service.

**FP--Port Station:** A coast station in the port operations service.(RR)

**SMB--Radar Beacon Precipitation Gage Station:** A transponder station in the meteorological aids service, the emissions of which are used for telemetering.

**RA--Radio Astronomy Station:** A station in the radio astronomy service. (RR) (This is always a receiving station.)

**MOB--Radio Beacon Mobile Station:** A mobile station the emissions of which are used to determine its location.

**TF--Radiodetermination-Satellite Earth Station:** A fixed earth station in the radiodetermination-satellite service. (RR)

**TL--Radiodetermination-Satellite Mobile Earth Station:** A mobile earth station in the radiodetermination-satellite service. (RR)

**EF--Radiodetermination-Satellite Space Station:** A space station in the radiodetermination-satellite service. (RR)

**RG--Radio Direction-Finding Station:** A radiodetermination station using radio direction-finding. (RR)

**LR--Radiolocation Land Station:** A station in the radiolocation service not intended to be used while in motion. (RR)

**MR--Radiolocation Mobile Station:** A station in the radiolocation service intended to be used while in motion or during halts at unspecified points. (RR)

**RN--Radionavigation Land Station:** A station in the radionavigation service not intended to be used in motion. (RR)

**ALTM--Radionavigation Land Test Station (Maintenance Test Facility):** A radionavigation land station in the aeronautical radionavigation service which is used as a radionavigation calibration station for the transmission of essential information in connection with the testing and calibration of aircraft navigational aids, receiving equipment and interrogators at predetermined surface locations. The primary purpose of this facility is to permit maintenance testing by aircraft radio service personnel.

**ALTO--Radionavigation Land Test Station (Operational Test Facility):** A radionavigation land station in the aeronautical radionavigation service which is used as a radionavigation calibration station for the transmission of essential information in connection with the testing and calibration of aircraft navigational aids, receiving equipment and interrogators at predetermined surface locations. The primary purpose of this facility is to permit the pilot to check a radionavigation system aboard the aircraft prior to takeoff.

**NR--Radionavigation Mobile Station:** A station in the radionavigation service intended to be used while in motion or during halts at unspecified points. (RR)

**TN--Radionavigation-Satellite Fixed Earth Station:** A fixed earth station in the radionavigation-satellite service. (RR)

**UM--Radionavigation-Satellite Mobile Earth Station:** A mobile earth station in the radionavigation-satellite service. (RR)

**EN--Radionavigation-Satellite Space Station:** A space station in the radionavigation-satellite service. (RR)

**ALR--Radio Range Station:** A radionavigation land station in the aeronautical radionavigation service providing radial equisignal zones. (In certain instances a radio range station may be placed on board a ship.)

**SAR**--Radiosonde Station: A station in the meteorological aids service employing a radiosonde.

**SMRG**--Radiosonde Ground Station: A station in the meteorological aids service employing a ground station associated with a radiosonde.

**TE**--Satellite EPIRB Station: A satellite Emergency Position-Indicating Radio Beacon (EPIRB) in the mobile-satellite service. (RR)

**TG**--Ship Earth Station: A mobile earth station in the maritime mobile-satellite service located on board ship. (RR)

**MS**--Ship Station: A mobile station in the maritime mobile service located on board a vessel which is not permanently moored, other than a survival craft station. (RR)

**SN**--Sounder Network Station: A station equipped with an ionosphere sounder used for the real-time selection of frequencies for operational communication circuits.

**SP**--Sounder Prediction Station: A station equipped with an ionosphere sounder for real-time monitoring of upper atmosphere phenomena or to obtain data for the prediction of propagation conditions.

**TT**--Space Operation Earth Station: An earth station in the space operation service. (RR)

**ET**--Space Operation Space Station: A space station in the space operation service. (RR)

**TH**--Space Research Earth Station: An earth station in the space research service. (RR)

**EH**--Space Research Space Station: A space station in the space research service.

**ME**--Space Station: A station located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere. (RR) (ME is not used on applications.)

**TD**--Space Telecommand Earth Station: An earth station the emissions of which are used for space telecommand.

**ED**--Space Telecommand Space Station: A space station which receives emissions used for space telecommand.

**TR**--Space Telemetry Earth Station: An earth station which receives emissions used for space telemetry.

**ER**--Space Telemetry Space Station: A space station the emissions of which are used for space telemetry.

**TK**--Space Tracking Earth Station: An earth station which transmits or receives emissions used for space tracking.

**EK**--Space Tracking Space Station: A space station which transmits or receives and retransmits emissions used for space tracking.

**SS**--Standard Frequency and Time Signal Station: A station in the standard frequency and time signal service. (RR)

**EE**--Standard Frequency Satellite Space Station: A space station in the standard frequency satellite service. (RR)

**FLEC**--Surface Telemetry Land Station: A telemetry land station the emissions of which are intended to be received on the surface of the Earth.

**MOEC**--Surface Telemetry Mobile Station: A telemetry mobile station located on the surface of the Earth and the emissions of which are intended to be received on the surface of the Earth.

**ALS**--Surveillance Radar Station: A radionavigation land station in the aeronautical radio-navigation service employing radar to display the presence of aircraft within its range. (In certain instances, a surveillance radar station may be placed on board a ship.)

**FAD**--Telecommand Aeronautical Station: A land station in the aeronautical mobile service the emissions of which are used for terrestrial telecommand.

**MAD**--Telecommand Aircraft Station: A mobile station in the aeronautical mobile service the emissions of which are used for terrestrial telecommand.

**FBD**--Telecommand Base Station: A land station in the land mobile service the emissions of which are used for terrestrial telecommand.

**FCD**--Telecommand Coast Station: A land station in the maritime mobile service the emissions of which are used for terrestrial telecommand.

**FXD**--Telecommand Fixed Station: A fixed station in the fixed service the emissions of which are used for terrestrial telecommand.

**FLD**--Telecommand Land Station: A land station in the mobile service the emissions of which are used for terrestrial telecommand.

**MLD**--Telecommand Land Mobile Station: A mobile station in the land mobile service the emissions of which are used for terrestrial telecommand.

**MOD**--Telecommand Mobile Station: A mobile station in the mobile service the emissions of which are used for terrestrial telecommand.

**MSD**--Telecommand Ship Station: A mobile station in the maritime mobile service the emissions of which are used for terrestrial telecommand.

**FXE**--Telemetry Fixed Station: A fixed station the emissions of which are used for telemetry.

**FLE**--Telemetry Land Station: A land station the emissions of which are used for telemetry.

**MOE**--Telemetry Mobile Station: A mobile station the emissions of which are used for telemetry.

## Stations (alphabetical by symbols)

1. Where a definition is followed by the parenthetical expression "(RR)," it is an indication that the definition is in the ITU Radio Regulations.

2. The suffix "AR" shall be added to the established class of station (STC) symbol only if the station is to be used primarily as a repeater in the bands:

29.89-50.00 MHz (exclusive government bands).  
138.00-144.00 MHz.  
148.00-149.90 MHz.  
150.05-150.80 MHz.  
162.00-174.00 MHz.  
406.10-420.00 MHz.

For this purpose, a repeater consists of a radio transmitter, a radio receiver and coupling between the two so as to retransmit unchanged in intelligence the received signal.

3. The following definitions of Stations and associated Station Class (STC) (see Section 9.8.2, paragraph 15a through 15c) symbols are used on U.S. government frequency assignments as applicable.

**AL**--Aeronautical Radionavigation Land Station: A land station in the aeronautical radionavigation service not intended for use while in motion.

**ALA**--Aeronautical Marker Beacon Station: A radionavigation land station in the aeronautical radionavigation service which employs a marker beacon.

**ALB**--Aeronautical Radiobeacon Station: A radiobeacon station in the aeronautical radionavigation service intended for the benefit of aircraft.

**ALC**--Aeronautical Radar Beacon (racon) Station: A land station in the aeronautical radionavigation service which employs a radar beacon (racon).

**ALG**--Glide Path (Slope) Station: A radionavigation land station which provides vertical guidance to aircraft during approach to landing.

**ALL**--Localizer Station: A radionavigation land station in the aeronautical radionavigation service which employs an Instrument Landing System Localizer.

**ALO--**Omnidirectional Range Station: A radionavigation land station in the aeronautical radio-navigation service providing direct indication of the bearing (omnibearing) of that station from an aircraft.

**ALR--**Radio Range Station: A radionavigation land station in the aeronautical radionavigation service providing radial equisignal zones. (In certain instances a radio range station may be placed on board a ship.)

**ALS--**Surveillance Radar Station: A radionavigation land station in the aeronautical radio-navigation service employing radar to display the presence of aircraft within its range. (In certain instances, a surveillance radar station may be placed on board a ship.)

**ALTM--**Radionavigation Land Test Station (Maintenance Test Facility): A radionavigation land station in the aeronautical radionavigation service which is used as a radionavigation calibration station for the transmission of essential information in connection with the testing and calibration of aircraft navigational aids, receiving equipment and interrogators at predetermined surface locations. The primary purpose of this facility is to permit maintenance testing by aircraft radio service personnel.

**ALTO--**Radionavigation Land Test Station (Operational Test Facility): A radionavigation land station in the aeronautical radionavigation service which is used as a radionavigation calibration station for the transmission of essential information in connection with the testing and calibration of aircraft navigational aids, receiving equipment and interrogators at predetermined surface locations. The primary purpose of this facility is to permit the pilot to check a radionavigation system aboard the aircraft prior to takeoff.

**AM--**Aeronautical Radionavigation Mobile Station: A mobile station in the aeronautical radionavigation service intended to be used while in motion or during halts at unspecified points.

**AMA--**Altimeter Station: A radionavigation mobile station in the aeronautical radionavigation service which employs a radio altimeter.

**AX--**Aeronautical Fixed Station: A station in the aeronautical fixed service. (RR)

**BC--**Broadcasting Station (sound): A station (sound) in the broadcasting service. (RR)

**BT--**Broadcasting Station (television): A station (television) in the broadcasting service. (RR)

**EB--**Broadcasting-Satellite Space Station (sound broadcasting): A space station in the broadcasting-satellite service (sound broadcasting). (RR)

**DGP--**Differential-Global-Positioning-System (DGPS) Station: a terrestrial station used for the transmission of differential correction information to DGPS receivers aboard aircraft for navigation.

**EC--**Fixed-Satellite Space Station: A space station in the fixed-satellite service. (RR)

**ED--**Space Telecommand Space Station: A space station which receives emissions used for space telecommand. (RR)

**EE--**Standard Frequency Satellite Space Station: A space station in the standard frequency satellite service. (RR)

**EF--**Radiodetermination-Satellite Space Station: A space station in the radiodetermination-satellite service. (RR)

**EG--**Maritime Mobile-Satellite Space Station: A space station in the maritime mobile-satellite service. (RR)

**EH--**Space Research Space Station: A space station in the space research service. (RR)

**EI--**Mobile-Satellite Space Station: A space station in the mobile-satellite service. (RR)

**EJ--**Aeronautical Mobile-Satellite Space Station: A space station in the aeronautical mobile-satellite service. (RR)

**EK--**Space Tracking Space Station: A space station which transmits or receives and retransmits emissions used for space tracking.

**EM--**Meteorological-Satellite Space Station: A space station in the meteorological-satellite service. (RR)

**EN--**Radionavigation-Satellite Space Station: A space station in the radionavigation-satellite service. (RR)

**EO--**Aeronautical Radionavigation-Satellite Space Station: A space station in the aeronautical radionavigation-satellite service. (RR)

**EQ--**Maritime Radionavigation-Satellite Space Station: A space station in the maritime radio-navigation-satellite service. (RR)

**ER--**Space Telemetry Space Station: A space station the emissions of which are used for space telemetry.

**ES--**Inter-Satellite Space Station: A space station in the inter-satellite service. (RR)

**ET--**Space Operation Space Station: A space station in the space operation service. (RR)

**EU--**Land Mobile-Satellite Space Station: A space station in the land mobile-satellite

service. (RR)

**EV--Broadcasting-Satellite Space Station (television):** A space station in the broadcasting-satellite service (television). (RR)

**EW--Earth Exploration-Satellite Space Station:** A space station in the Earth exploration-satellite service. (RR)

**EX--Experimental Station:** A station utilizing radio waves in experiments with a view to development of science or technique. (RR) (EX is not used on applications.)

**FA--Aeronautical Station:** A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example on board ship or on a platform at sea. (RR)

**FAB--Aeronautical Broadcast Station:** An aeronautical station which makes scheduled broadcasts of meteorological information and notices to airmen. (In certain instances, an aeronautical broadcast station may be placed on board a ship.)

**FAC--Airdrome Control Station:** An aeronautical station providing communication between an airdrome control tower and aircraft.

**FAD--Telecommand Aeronautical Station:** A land station in the aeronautical mobile service the emissions of which are used for terrestrial telecommand.

**FAT--Flight Test Station:** An aeronautical station used for the transmission of essential communications in connection with the testing of aircraft or major components of aircraft.

**FB--Base Station:** A land station in the land mobile service. (RR)

**FBD--Telecommand Base Station:** A land station in the land mobile service the emissions of which are used for terrestrial telecommand.

**FC--Coast Station:** A land station in the maritime mobile service. (RR)

**FCB--Marine Broadcast Station:** A coast station which makes scheduled broadcast of time, meteorological, and hydrographic information.

**FCD--Telecommand Coast Station:** A land station in the maritime mobile service the emissions of which are used for terrestrial telecommand.

**FD--Aeronautical Station (R):** An aeronautical station in the aeronautical mobile (R) service. (RR)

**FG--Aeronautical Station (OR):** An aeronautical station in the aeronautical mobile (OR) service. (RR)

**FL--Land Station:** A station in the mobile service not intended to be used while in motion. (RR)

**FLD--Telecommand Land Station:** A land station in the mobile service the emissions of which are used for terrestrial telecommand.

**FLE--Telemetering Land Station:** A land station the emissions of which are used for telemetering.

**FLEA--Aeronautical Telemetering Land Station:** A telemetering land station used in the flight testing of manned or unmanned aircraft, missiles, or major components thereof.

**FLEB--Flight Telemetering Land Station:** A telemetering land station the emissions of which are used for telemetering to a balloon; to a booster or rocket, excluding a booster or rocket in orbit about the Earth or in deep space; or to an aircraft, excluding a station used in the flight testing of an aircraft.

**FLEC--Surface Telemetering Land Station:** A telemetering land station the emissions of which are intended to be received on the surface of the Earth.

**FLH--Hydrologic and Meteorological Land Station:** A land station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**FLU--Aeronautical Utility Land Station:** A land station located at airdrome control towers and used for control of ground vehicles and aircraft on the ground at airdromes.

**FP--Port Station:** A coast station in the port operations service. (RR)

**FX--Fixed Station:** A station in the fixed service. (RR)

**FXD--Telecommand Fixed Station:** A fixed station in the fixed service the emissions of which are used for terrestrial telecommand.

**FXE--Telemetering Fixed Station:** A fixed station the emissions of which are used for telemetering.

**FXH--Hydrologic and Meteorological Fixed Station:** A fixed station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**LR--Radiolocation Land Station:** A station in the radiolocation service not intended to be used while in motion. (RR)

**MA--Aircraft Station:** A mobile station in the aeronautical mobile service other than a survival craft station, located on board an aircraft. (RR)

**MAD--Telecommand Aircraft Station:** A mobile station in the aeronautical mobile service the emissions of which are used for terrestrial telecommand.

**MAP--**Portable Aircraft Station: A portable station operating in the aeronautical mobile service.

**ME--**Space Station: A station located on an object which is beyond, is intended to go beyond, or has been beyond, the major portion of the Earth's atmosphere. (RR) (ME is not used on applications.)

**ML--**Land Mobile Station: A mobile station in the land mobile service capable of surface movement within the geographical limits of a country or continent. (RR)

**MLD--**Telecommand Land Mobile Station: A mobile station in the land mobile service the emissions of which are used for terrestrial telecommand.

**MLP--**Portable Land Mobile Station: A portable station operating in the land mobile service.

**MO--**Mobile Station: A station in the mobile service intended to be used while in motion or during halts at unspecified points. (RR)

**MOB--**Radio Beacon Mobile Station: A mobile station the emissions of which are used to determine its location.

**MOD--**Telecommand Mobile Station: A mobile station in the mobile service the emissions of which are used for terrestrial telecommand.

**MOE--**Telemetering Mobile Station: A mobile station the emissions of which are used for telemetering.

**MOEA--**Aeronautical Telemetering Mobile Station: A telemetering mobile station used for transmitting data directly related to the airborne testing of the vehicle, (or major components), on which the station is installed.

**MOEB--**Flight Telemetering Mobile Station: A telemetering mobile station used for transmitting data from an airborne vehicle, excluding data related to airborne testing of the vehicle itself, (or major components thereof).

**MOEC--**Surface Telemetering Mobile Station: A telemetering mobile station located on the surface of the Earth and the emissions of which are intended to be received on the surface of the Earth.

**MOH--**Hydrologic and Meteorological Mobile Station: A mobile station the emissions of which are used for the automatic transmission of either hydrologic or meteorological data, or both.

**MOP--**Portable Mobile Station: A portable station operating in the mobile service.

**MOU--**Aeronautical Utility Mobile Station: A mobile station used for communication at airdromes with the aeronautical utility land station, the airdrome control station, the FAA flight service station, ground vehicles, and aircraft on the ground. (All transmissions shall be subject to the control of the airdrome control station and shall be discontinued immediately when so requested by the airdrome control operators.)

**MR--**Radiolocation Mobile Station: A station in the radiolocation service intended to be used while in motion or during halts at unspecified points. (RR)

**MRP--**Portable Radiolocation Station: A portable station operating in the radiolocation service.

**MS--**Ship Station: A mobile station in the maritime mobile service located on board a vessel which is not permanently moored, other than a survival craft station. (RR)

**MSD--**Telecommand Ship Station: A mobile station in the maritime mobile service the emissions of which are used for terrestrial telecommand.

**MSP--**Portable Ship Station: A portable station operating in the maritime mobile service.

**NL--**Maritime Radionavigation Land Station: A land station in the Maritime Radionavigation Service not intended for use while in motion.

**NLC--**Maritime Radar Beacon (racon) Station: A land station in the maritime radionavigation service which employs a radar beacon (racon).

**NLM--**Marine Radiobeacon Station: A radiobeacon station in the maritime radionavigation service intended for the benefit of ships.

**NR--**Radionavigation Mobile Station: A station in the radionavigation service intended to be used while in motion or during halts at unspecified points. (RR)

**OD--**Oceanographic Data Station: A station in the maritime mobile service located on a ship, buoy or other sensor platform the emissions of which are used for the transmission of oceanographic data.

**OE--**Oceanographic Data Interrogating Station: A station in the maritime mobile service the emissions of which are used to initiate, modify, or terminate functions of equipment directly associated with an oceanographic data station, including the station itself.

**RA--**Radio Astronomy Station: A station in the radio astronomy service. (RR) (This is always a receiving station.)

**RG--**Radio Direction-Finding Station: A radiodetermination station using radio direction-finding. (RR)



**RN--**Radionavigation Land Station: A station in the radionavigation service not intended to be used in motion. (RR)

**RNL--**Loran Station: A long distance radionavigation land station transmitting synchronized pulses. Hyperbolic lines of position are determined by the measurement of the difference in the time of arrival of these pulses.

**SA--**Meteorological Aids Mobile Station: A mobile station in the meteorological aids service intended to be used while in motion or during halts at unspecified points.

**SAR--**Radiosonde Station: A station in the meteorological aids service employing a radiosonde.

**SM--**Meteorological Aids Base Station: A land station in the meteorological aids service not intended for use while in motion.

**SMB--**Radar Beacon Precipitation Gage Station: A transponder station in the meteorological aids service, the emissions of which are used for telemetering.

**SMD--**Meteorological Radar Station: A station in the meteorological aids service employing radar.

**SMRG--**Radiosonde Ground Station: A station in the meteorological aids service employing a ground station associated with a radiosonde.

**SN--**Sounder Network Station: A station equipped with an ionosphere sounder used for the real-time selection of frequencies for operational communication circuits.

**SP--**Sounder Prediction Station: A station equipped with an ionosphere sounder for real-time monitoring of upper atmosphere phenomena or to obtain data for the prediction of propagation conditions.

**SS--**Standard Frequency and Time Signal Station: A station in the standard frequency and time signal service. (RR)

**TB--**Aeronautical Earth Station: An earth station in the fixed-satellite service or in some cases in the aeronautical mobile-satellite service located at a specified fixed point on land to provide a feeder link for the aeronautical mobile-satellite service. (RR)

**TC--**Fixed-Satellite Earth Station: An earth station in the fixed-satellite service. (RR)

**TD--**Space Telecommand Earth Station: An earth station the emissions of which are used for space telecommand.

**TE--**Satellite EPIRB Station: A satellite Emergency Position-Indicating Radio Beacon (EPIRB) in the mobile-satellite service (RR).

**TF--**Radiodetermination-Satellite Earth Station: A fixed earth station in the radiodetermination-satellite service. (RR)

**TG--**Ship Earth Station: A mobile earth station in the maritime mobile-satellite service located on board ship. (RR)

**TH--**Space Research Earth Station: An earth station in the space research service. (RR)

**TI--**Coast Earth Station: An earth station in the fixed-satellite service or in some cases in the maritime mobile-satellite service located at a specified fixed point on land to provide a feeder link for the maritime mobile-satellite. (RR)

**TJ--**Aircraft Earth Station: A mobile earth station in the aeronautical mobile-satellite service located on board an aircraft. (RR)

**TK--**Space Tracking Earth Station: An earth station which transmits or receives emissions used for space tracking.

**TL--**Radiodetermination-Satellite Mobile Earth Station: A mobile earth station in the radiodetermination-satellite service. (RR)

**TM--**Meteorological-Satellite Earth Station: An earth station in the meteorological-satellite service. (RR)

**TN--**Radionavigation-Satellite Fixed Earth Station: A fixed earth station in the radionavigation-satellite service. (RR)

**TO--**Aeronautical Radionavigation-Satellite Mobile Earth Station: A mobile earth station in the aeronautical radionavigation-satellite service. (RR)

**TP--**Earth Station (receiving): An earth station used for receiving. (RR) (TP is not used on applications.)

**TQ--**Maritime Radionavigation-Satellite Mobile Earth Station: A mobile earth station in the maritime radionavigation-satellite service. (RR)

**TR--**Space Telemetering Earth Station: An earth station which receives emissions used for space telemetering.

**TT--**Space Operation Earth Station: An earth station in the space operation service. (RR)

**TU--**Land Mobile Earth Station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent. (RR)

**TW**--Earth Exploration-Satellite Earth Station: An earth station in the Earth exploration-satellite service. (RR)

**TX**--Maritime Radionavigation-Satellite Earth Station: A fixed earth station in the maritime radionavigation-satellite service. (RR)

**TY**--Base Earth Station: An earth station in the fixed-satellite service or in some cases in the land mobile-satellite service located at a specified point or within a specified area on land to provide a feeder link for the land mobile-satellite service. (RR)

**TZ**--Aeronautical Radionavigation-Satellite Earth Station: A fixed earth station in the aeronautical radionavigation-satellite service. (RR)

**UA**--Mobile Earth Station: An earth station in the mobile-satellite service intended to be used while in motion or during halts at unspecified points. (RR)

**UM**--Radionavigation-Satellite Mobile Earth Station: A mobile earth station in the radionavigation-satellite service. (RR)

**VA**--Land Earth Station: An earth station in the fixed-satellite service or in some cases in the mobile-satellite service located at a specified point or within a specified area on land to provide a feeder link for the mobile-satellite service. (RR)

**XC**--Experimental Contract Developmental Station: An experimental station used for the evaluation or testing under Government contract of electronics equipment or systems in a design or development stage.

**XD**--Experimental Developmental Station: An experimental station used for evaluation or testing of electronics equipment or systems in a design or development stage.

**XE**--Experimental Export Station: An experimental station intended for export and used for the evaluation or testing of electronics equipment or systems in the design or development stage.

**XM**--Experimental Composite Station: An experimental station used in experimental operations of a complex nature not readily specified or used in an operation which is a composite of two or more of the established experimental categories.

**XR**--Experimental Research Station: An experimental station used in basic studies concerning scientific investigation looking toward the improvement of the art of radiocommunications.

**XT**--Experimental Testing Station: An experimental station used for the evaluation or testing of electronics equipment or systems, including site selection and transmission path surveys, which have been developed for operational use.

## **Table of Services, Station Classes, and Stations**

Table A is used to determine the proper Station Class (STC) symbol to be used versus the *Service* in which the transmitting station will operate. Frequency bands are allocated to Service(s) based upon the U.S. Government Table of Frequency Allocations.

**TABLE A**

Table of Services, Station Classes, and Stations

| <b>Service</b>                         | <b>Station Class</b>                  | <b>Station</b>   |
|--|---------------------------------------|--|
| <b>1. Amateur</b>                      | None                                  | Amateur  |
| <b>2. Broadcasting</b>                 | BC<br>BT                              | Broadcasting (sound)<br>Broadcasting (television)  |
| <b>3. Broadcasting-Satellite</b>       | EB<br>EV                              | Space (sound)<br>Space (television)  |
| <b>4. Earth Exploration-Satellite</b>  | EW<br>TW                              | Space<br>Earth   |
| <b><i>Meteorological-Satellite</i></b> | EM<br>TM                              | Space<br>Earth   |
| <b>5. Fixed</b>                        | FX<br>FXD<br>FXE<br>FXH               | Fixed<br>Telecommand Fixed<br>Telemetry Fixed<br>Hydrologic and Meteorological Fixed   |
| <b><i>Aeronautical Fixed</i></b>       | AX                                    | Aeronautical Fixed   |
| <b>6. Fixed-Satellite</b>              | EC<br>TC<br>VA<br>TB<br>TI<br>TY      | Space<br>Earth<br>Land Earth<br>Earth<br>Coast Earth<br>Base Earth   |
| <b>7. Inter-Satellite</b>              | ES                                    | Space  |
| <b>8. Meteorological Aids</b>          | SA<br>SAR<br>SM<br>SMB<br>SMD<br>SMRG | Meteorological Aids Mobile Station<br>Radiosonde<br>Meteorological Aids Base Station<br>Radar Beacon Precipitation Gage<br>Meteorological Radar<br>Radiosonde Ground |

| Service                                | Station Class  | Station  |
|--|--|--|
| <b>9. Mobile</b>                       | FL<br>FLD<br>FLE<br>FLEA<br>FLEB<br>FLEC<br>FLH<br>FLU<br>MO<br>MOB<br>MOD<br>MOE<br>MOEA<br>MOEB<br>MOEC<br>MOH<br>MOP<br>MOU | Land<br>Telecommand Land<br>Telemetry Land<br>Aeronautical Telemetry Land<br>Flight Telemetry Land<br>Surface Telemetry Land<br>Hydrologic and Meteorological Land<br>Aeronautical Utility Land<br>Mobile<br>Radio Beacon Mobile<br>Telecommand Mobile<br>Telemetry Mobile<br>Aeronautical Telemetry Mobile<br>Flight Telemetry Mobile<br>Surface Telemetry Mobile<br>Hydrologic and Meteorological Mobile<br>Portable Mobile<br>Aeronautical Utility Mobile |
| <b><i>Aeronautical Mobile</i></b>      | FA<br>FAB<br>FAC<br>FAD<br>FAT<br>MA<br>MAD<br>MAP   | Aeronautical<br>Aeronautical Broadcast<br>Airdrome Control<br>Telecommand Aeronautical<br>Flight Test<br>Aircraft<br>Telecommand Aircraft<br>Portable Aircraft   |
| <b><i>Aeronautical Mobile (OR)</i></b> | FG   | Aeronautical   |
| <b><i>Aeronautical Mobile (R)</i></b>  | FD   | Aeronautical   |
| <b><i>Land Mobile</i></b>              | FB<br>FBD<br>ML<br>MLD<br>MLP  | Base<br>Telecommand Base<br>Land Mobile<br>Telecommand Land Mobile<br>Portable Land Mobile   |
| <b><i>Maritime Mobile</i></b>          | FC<br>FCB<br>FCD<br>MS<br>MSD<br>MSP<br>OD<br>OE   | Coast<br>Marine Broadcast<br>Telecommand Coast<br>Ship<br>Telecommand Ship<br>Portable Ship<br>Oceanographic Data<br>Oceanographic Data Interrogating  |
| <b>10. Mobile-Satellite</b>            | UA<br>TE<br>EI<br>VA   | Mobile Earth<br>Satellite EPIRB<br>Space<br>Land Earth   |

| Service                                     | Station Class   | Station   |
|---|---|---|
| <b><i>Aeronautical Mobile-Satellite</i></b> | EJ<br>TB<br>TJ  | Space<br>Earth<br>Aircraft Earth  |
| <b><i>Land Mobile-Satellite</i></b>         | EU<br>TU<br>TY  | Space<br>Land Mobile Earth<br>Base Earth  |
| <b><i>Maritime Mobile-Satellite</i></b>     | EG<br>TG<br>TI  | Space<br>Ship Earth<br>Coast Earth  |
| <b>11. Radio Astronomy</b>                  | RA  | Radio Astronomy   |
| <b>12. Radiodetermination</b>               | None<br>RG  | Radiodetermination<br>Radio Direction-Finding   |
| <b><i>Radiolocation</i></b>                 | LR<br>MR<br>MRP   | Land<br>Mobile<br>Portable  |
| <b><i>Radionavigation</i></b>               | NR<br>RNL<br>RN   | Mobile<br>LORAN<br>Land   |
| Aeronautical<br>Radionavigation             | AL<br>ALA<br>ALB<br>ALC<br>ALG<br>ALL<br>ALO<br>ALR<br>ALS<br>ALTM<br>ALTO<br>AM<br>AMA | Land<br>Marker Beacon<br>Radio Beacon<br>Radar Beacon (Racon)<br>Glide Path (Slope)<br>Localizer<br>Omnidirectional Range<br>Radio Range<br>Surveillance Radar<br>Land Test (Maintenance)<br>Land Test (Operational)<br>Mobile<br>Altimeter |
| Maritime Radionavigation                    | NL<br>NLC<br>NLM  | Land<br>Radar Beacon (Racon)<br>Marine Radio Beacon   |
| <b>13. Radiodetermination-Satellite</b>     | EF<br>TF<br>TL  | Space<br>Earth<br>Mobile Earth  |
| <b><i>Radionavigation-Satellite</i></b>     | EN<br>TN<br>UM  | Space<br>Fixed Earth<br>Mobile Earth  |
| Aeronautical<br>Radionavigation-Satellite   | EO<br>TO<br>TZ  | Space<br>Mobile Earth<br>Earth  |

| <b>Service</b>  | <b>Station Class</b>  | <b>Station</b>  |
|---|---|---|
| Maritime Radionavigation-Satellite                      | EQ<br>TQ<br>TX  | Space<br>Mobile Earth<br>Earth  |
| <b>14. Space Operation</b>                              | ET<br>TT  | Space<br>Earth  |
| <b>15. Space Research</b>                               | EH<br>TH  | Space<br>Earth  |
| <b>16. Standard Frequency and Time Signal</b>           | SS  | Standard Frequency and Time Signal  |
| <b>17. Standard Frequency and Time Signal-Satellite</b> | EE  | Space   |
| <b>18. No Specific Service</b>                          | DGP<br><br>ED<br>EK<br>ER<br>SN<br>SP<br>TD<br>TK<br>TR<br>XC<br><br>XD<br>XE<br>XM<br>XR<br>XT | Differential-Global-Positioning-System<br><br>Space Telecommand Space<br>Space Tracking Space<br>Space Telemetry Space<br>Sonder Network<br>Sonder Prediction<br>Space Telecommand Earth<br>Space Tracking Earth<br>Space Telemetry Earth<br>Experimental Contract<br>Developmental<br>Experimental Developmental<br>Experimental Export<br>Experimental Composite<br>Experimental Research<br>Experimental Testing |

## ANNEX B - TABLE OF EMISSIONS DESIGNATORS

1. Table A-B-1 contains the emission classification symbols for use it Data Item 114.

Table A-B-1 - Required Emission Classification Symbols (Page 1 of 2)

| <b>First Symbol - Designates Type of Modulation of the Main Carrier</b>   |  |
|---|--|
| <b>Unmodulated</b>  |  |
| N - Emission of unmodulated carrier   |  |
| <b>Amplitude Modulated</b>  |  |
| A - Double sideband   |  |
| H - Single sideband, full carrier   |  |
| R - Single sideband, reduced or variable level carrier  |  |
| J - Single sideband, suppressed carrier   |  |
| B - Independent sidebands   |  |
| C - Vestigial sidebands   |  |
| <b>Angle-Modulated</b>  |  |
| F - Frequency modulation  |  |
| G - Phase modulation  |  |
| <b>Amplitude and Angle-Modulated</b>  |  |
| D - Main carrier is amplitude-modulated and angle-modulated simultaneously or in a preestablished sequence  |  |
| <b>Pulse</b>  |  |
| P - Sequence of unmodulated pulses  |  |
| K - Modulated in amplitude  |  |
| L - Modulated in width/duration   |  |
| M - Modulated in position phase   |  |
| Q - Carrier is angle-modulated during the period of the pulse   |  |
| V - Combination of the foregoing or is produced by other means  |  |
| <b>Combination</b>  |  |
| W - Cases not covered above in which an emission consists of the main carrier being modulated, either simultaneously or in a preestablished sequence, in a combination of two or more of the following modes: amplitude, angle, pulse |  |
| <b>Other</b>  |  |
| X - Cases not otherwise covered   |  |

Table A-B-1 (Page 2 of 2)

| <b>Second Symbol - Designates the Nature of Signal(s) Modulating the Main Carrier</b>   |
|---|
| 0 - No modulating signal<br>1 - A single channel containing quantized or digital information, not using a modulating subcarrier.<br>(Excludes time-division multiplex)<br>2 - A single channel containing quantized or digital information, using a modulating subcarrier<br>3 - A single channel containing analogue information<br>7 - Two or more channels containing quantized or digital information<br>8 - Two or more channels containing analogue information<br>9 - Composite system with one or more channels containing quantized or digital information, together<br>with one or more channels containing analogue information<br>X - Cases not otherwise covered |
| <b>Third Symbol - Type of Information to be Transmitted<sup>a</sup></b>   |
| N - No information transmitted<br>A - Telegraphy - for aural reception<br>B - Telegraphy - for automatic reception<br>C - Facsimile<br>D - Data transmission, telemetry, telecommand<br>E - Telephony (including sound broadcasting)<br>F - Television (video)<br>W - Combination of the above<br>X - Cases not otherwise covered. <sup>b</sup>   |
| <sup>a</sup> In this context, the word "information" does not include information of a constant, unvarying, nature such as that provided by standard frequency emissions, continuous wave, pulse radars, etc.<br><sup>b</sup> A full explanation for the selection of the letter X shall be provided in item 520 unless the application is for a non-directional beacon in the bands 190-435 and 510-535 kHz.   |

Table A-B-2 - Optional Emission Classification Symbols

| <b>Fourth Symbol - Designates the Details of Signal(s)</b>   |
|--|
| A - Two-condition code with elements of differing numbers and/or durations<br>B - Two-condition code with elements of the same number and duration without error correction<br>C - Two-condition code with elements of the same number and duration with error correction<br>D - Four-condition code in which each condition represents a signal element of one or more bits<br>E - Multi-condition code in which each condition represents a signal element of one or more bits<br>F - Multi-condition code in which each condition or combination of conditions represents a character<br>G - Sound of broadcasting quality (monophonic)<br>H - Sound of broadcasting quality (stereophonic or quadraphonic)<br>J - Sound of commercial quality (excluding categories defined for symbol K and L below)<br>K - Sound of commercial quality with the use of frequency inversion or band splitting<br>L - Sound of commercial quality with separate frequency modulated signals to control the level of demodulated signal<br>M - Monochrome<br>N - Color<br>W - Combination of the above<br>X - Cases not otherwise covered |
| <b>Fifth Symbol - Designates the Nature of Multiplexing</b>  |
| N - None<br>C - Code-division multiplex (includes bandwidth expansion techniques)<br>F - Frequency-division multiplex<br>T - Time-division multiplex<br>W - Combination of frequency-division multiplex and time-division multiplex<br>X - Other types of multiplexing   |



## ANNEX C - GEOGRAPHICAL ABBREVIATIONS

This annex contains those abbreviations that will be used in data items 300, 301, 400 401, 530 and 531. The various lists are sorted by the approved code.

### UNITED STATES AND POSSESSIONS

#### 50 United States and the District of Columbia

|    |                      |    |                |
|----|----------------------|----|----------------|
| AK | Alaska               | MT | Montana        |
| AL | Alabama              | NC | North Carolina |
| AR | Arkansas             | ND | North Dakota   |
| AZ | Arizona              | NE | Nebraska       |
| CA | California           | NH | New Hampshire  |
| CO | Colorado             | NJ | New Jersey     |
| CT | Connecticut          | NM | New Mexico     |
| DC | District of Columbia | NV | Nevada         |
| DE | Delaware             | NY | New York       |
| FL | Florida              | OH | Ohio           |
| GA | Georgia              | OK | Oklahoma       |
| HI | Hawaii               | OR | Oregon         |
| IA | Iowa                 | PA | Pennsylvania   |
| ID | Idaho                | RI | Rhode Island   |
| IL | Illinois             | SC | South Carolina |
| IN | Indiana              | SD | South Dakota   |
| KS | Kansas               | TN | Tennessee      |
| KY | Kentucky             | TX | Texas          |
| LA | Louisiana            | UT | Utah           |
| MA | Massachusetts        | VA | Virginia       |
| MD | Maryland             | VT | Vermont        |
| ME | Maine                | WA | Washington     |
| MI | Michigan             | WI | Wisconsin      |
| MN | Minnesota            | WV | West Virginia  |
| MO | Missouri             | WY | Wyoming        |
| MS | Mississippi          |    |                |

#### Possession or Commonwealths of the United States (Other than the 50 United States and the District of Columbia)

##### *Caribbean Area*

|    |   |
|----|---|
| -  | Navassa Island  |
| PR | Puerto Rico (including Culebra, Mona, and Vieques)                  |
| -  | Quita Sueno Bank  |
| -  | Roncador Bank (Roncador Cay)  |
| -  | Serrana Bank (North Cay, Southwest Cay, Northwest Rocks, Dry Ledge) |
| -  | Serranilla Bank (West Breaker, Beacon Cay)                          |
| VI | Virgin Islands (St. Croix, St. John, St. Thomas)                    |

##### *Pacific Area*

|     |   |
|-----|---|
| -   | Baker Island  |
| GUM | Guam  |
| HWL | Howland Island  |
| JAR | Jarvis Island   |
| JON | Johnston Island (including Sand Island)   |
| -   | Kingman Reef  |
| MDW | Midway (Includes Eastern and Sand Islands)  |
| MRA | (except Guam) Mariana Islands (Formerly Ladrone Islands) (Agrihan, Aguijan, Alamagan, Anatahan, Asuncion, Guguan, Maug, Medinilla, Pagan, Farallon de Pajaros, Rota, Saipan, Sarigan, and Tinian) |
| PLM | Palmyra Island (Some 50 islands make up the Atoll of Palmyra)   |
| SMA | Samoa (American) (Aunuu, Manua Group [or Islands, i.e., Ofu, Olosega, Tau], Rose Island, Swains Island, Tutuila)  |
| WAK | Wake Island   |

#### **AREA AND OTHER ABBREVIATIONS**

|      |   |
|------|---|
| AFR  | Africa  |
| ANTR | Antarctica  |
| ARCO | Arctic Ocean  |
| CAM  | Central America   |
| CBN  | Caribbean   |
| EUR  | Europe  |
| FE   | Far East (Countries of China, Japan, Korea, Thailand, Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Vietnam and East India)  |
| GLM  | Gulf of Mexico  |
| GTLK | Great Lakes (collectively)  |
| INDO | Indian Ocean  |
| LAM  | Latin America   |
| LANT | Atlantic Ocean  |
| LERI | Lake Erie   |
| LHUR | Lake Huron  |
| LMIC | Lake Michigan   |
| LONT | Lake Ontario  |
| LSUP | Lake Superior   |
| MED  | Mediterranean Sea   |
| OCNA | Oceania   |
| PAC  | Pacific Ocean   |
| RCVR | Restricted for use only in Passive Sensor and Radio Astronomy listings  |
| SPCE | Space   |
| US   | For US only when transmitting and/or receiving in all 50 United States and the District of Columbia   |
| USA  | For use only when transmitting and/or receiving in the 48 Contiguous States of the United States and the District of Columbia (This Excludes Alaska and Hawaii)   |
| USP  | For use only when transmitting and/or receiving throughout the US (50 States and District of Columbia), the Commonwealth of Puerto Rico, and the Territories and Possessions (does not include the former Trust Territory of the Pacific Islands) |

#### **COUNTRY ABBREVIATIONS**

|     |                                |
|-----|--------------------------------|
| ABW | Aruba                          |
| AFG | Afghanistan (Islamic State of) |
| AFS | South Africa (Republic of)     |

|     |   |
|-----|---|
| AGL | Angola (Republic of)                          |
| AIA | Anguilla                                      |
| ALB | Albania (Republic of)                         |
| ALG | Algeria (People's Democratic Republic of)     |
| ALS | Alaska (not for use in GMF; for ITU use only) |
| AMS | Saint Paul and Amsterdam Islands              |
| AND | Andorra (Principality of)                     |
| AOE | Western Sahara                                |
| ARG | Argentine Republic                            |
| ARM | Armenia (Republic of)                         |
| ARS | Saudi Arabia (Kingdom of)                     |
| ASC | Ascension                                     |
| ATA | Antartic                                      |
| ATG | Antigua and Barbuda                           |
| ATN | Netherlands Antilles                          |
| AUS | Australia                                     |
| AUT | Austria                                       |
| AZE | Azerbaijani Republic                          |
| AZR | Azores  |
|     |   |
| B   | Brazil (Federative Republic of)               |
| BAH | Bahamas (Commonwealth of the)                 |
| BDI | Burundi (Republic of)                         |
| BEL | Belgium                                       |
| BEN | Benin (Republic of)                           |
| BER | Bermuda                                       |
| BFA | Burkina Faso                                  |
| BGD | Bangladesh (People's Republic of)             |
| BHR | Bahrain (State of)                            |
| BIH | Bosnia & Herzegovina (Republic of)            |
| BIO | British Indian Ocean Territory                |
| BLR | Belarus (Republic of)                         |
| BLZ | Belize  |
| BOL | Bolivia (Republic of)                         |
| BOT | Botswana (Republic of)                        |
| BRB | Barbados                                      |
| BRM | Myanmar (Union of)                            |
| BRU | Brunei Darussalam                             |
| BTN | Bhutan (Kingdom of)                           |
| BUL | Bulgaria (Republic of)                        |
|     |   |
| CAF | Central African Republic                      |
| CAN | Canada  |
| CAR | Caroline Islands                              |
| CBG | Cambodia (Kingdom of)                         |
| CHL | Chile (except Easter Island)                  |
| CHN | China (People's Republic of)                  |
| CHR | Christmas Island (Indian Ocean)               |
| CKH | Cook Islands                                  |
| CLM | Colombia (Republic of)                        |
| CLN | Sri Lanka (Democratic Socialist Republic of)  |
| CME | Cameroon (Republic of)                        |
| CNR | Canary Islands                                |
| COG | Congo (Republic of the)                       |
|     |   |
| COM | Comoros (Islamic Federal Republic of the)     |

|     |   |
|-----|---|
| CPV | Cape Verde (Republic of)  |
| CRO | Crozet Archipelago  |
| CTI | Cote d'Ivoire (Republic of)   |
| CTR | Costa Rica  |
| CUB | Cuba  |
| CVA | Vatican City State  |
| CYM | Cayman Islands  |
| CYP | Cyprus (Republic of)  |
| CZE | Czech Republic  |
|     |   |
| D   | Germany (Federal Republic of)   |
| DGA | Diego Garcia  |
| DJI | Djibouti (Republic of)  |
| DMA | Dominica (Commonwealth of)  |
| DNK | Denmark   |
| DOM | Dominican Republic  |
|     |   |
| E   | Spain   |
| EGY | Egypt (Arab Republic of)  |
| EQA | Ecuador   |
| ERI | Eritrea   |
| EST | Estonia (Republic of)   |
| ETH | Ethiopia  |
|     |   |
| F   | France  |
| FJI | Fiji (Republic of)  |
| FLK | Falkland Islands (Malvinas)   |
| FIN | Finland   |
| FRO | Faroe Islands   |
| FSM | Micronesia (Federated States of) (Kapingamarangi, Kosrae, Lamotrek, Namonuito, Nukuoro, Oroluk, Pohnpei, Truk, Ulithi, Woleai, Yap) |
|     |   |
| G   | United Kingdom of Great Britain and Northern Ireland  |
| GAB | Gabonese Republic   |
| GCA | Territories of the United Kingdom in Region 1   |
| GCC | Territories of the United Kingdom in Region 3   |
| GDL | Guadeloupe (French Department of)   |
| GEO | Georgia (Republic of)   |
| GHA | Ghana   |
| GIB | Gibraltar   |
| GMB | Gambia (Republic of the)  |
| GNB | Guinea-Bissau (Republic of)   |
| GNE | Equatorial Guinea (Republic of)   |
| GRC | Greece  |
| GRD | Grenada   |
| GRL | Greenland   |
| GTM | Guatemala (Republic of)   |
| GUF | Guiana (French Department of)   |
| GUI | Guinea (Republic of)  |
| GUM | Guam  |
| GUY | Guyana  |
|     |   |
| HKG | Hong Kong   |
| HND | Honduras (Republic of)  |
| HNG | Hungary (Republic of)   |

|     |   |
|-----|---|
| HOL | Netherlands (Kingdom of the)  |
| HRV | Croatia (Republic of)   |
| HTI | Haiti (Republic of)   |
| HWA | Hawaii (not for use in GMF; for ITU use only)   |
| I   | Italy   |
| ICO | Cocos Keeling Islands   |
| IND | India (Republic of)   |
| INS | Indonesia (Republic of)   |
| IRL | Ireland   |
| IRN | Iran (Islamic Republic of)  |
| IRQ | Iraq (Republic of)  |
| ISL | Iceland   |
| ISR | Israel (State of)   |
| J   | Japan (includes Iwo Jima, Marcus Island, Ryu Kyu Islands)   |
| JMC | Jamaica   |
| JON | Johnston Island   |
| JOR | Jordan (Hashemite Kingdom of)   |
| KAZ | Kazakhstan (Republic of)  |
| KEN | Kenya (Republic of)   |
| KER | Kerguelen Islands   |
| KGZ | Kyrgyz Republic   |
| KIR | Kiribati (Republic of)  |
| KOR | Korea (Republic of)   |
| KRE | Democratic People's Republic of Korea   |
| KWT | Kuwait (State of)   |
| LAO | Lao People's Democratic Republic  |
| LBN | Lebanon   |
| LBR | Liberia (Republic of)   |
| LBY | Libya (Socialist People's Libyan Arab Jamahiriya)   |
| LCA | Saint Lucia   |
| LIE | Liechtenstein (Principality of)   |
| LSO | Lesotho (Kingdom of)  |
| LTU | Lithuania (Republic of)   |
| LUX | Luxembourg  |
| LVA | Latvia (Republic of)  |
| MAC | Macao   |
| MAU | Mauritius (Republic of)   |
| MCO | Monaco (Principality of)  |
| MDA | Moldova (Republic of)   |
| MDG | Madagascar (Democratic Republic of)   |
| MDR | Madeira   |
| MDW | Midway Islands  |
| MEX | Mexico  |
| MHL | Marshall Islands (Republic of the) (Ailinglapalap, Arno, Ebeye, Enewetak, Jaluit, Kwajalein, Majuro, Mili, Roi-Namur, Rongelap) |
| MKD | The Former Yugoslav Republic of Macedonia   |
| MLA | Malaysia  |
| MLD | Maldives (Republic of)  |
| MLI | Mali (Republic of)  |
| MLT | Malta   |
| MNG | Mongolian People's Republic   |
| MOZ | Mozambique (Republic of)  |

|     |   |
|-----|---|
| MRA | Mariana Islands (except Guam)   |
| MRC | Morocco (Kingdom of)  |
| MRN | Marion Island   |
| MRT | Martinique (French Department of)   |
| MSR | Montserrat  |
| MTN | Mauritania (Islamic Republic of)  |
| MWI | Malawi  |
| MYT | Mayotte Island  |
|     |   |
| NCG | Nicaragua   |
| NCL | New Caledonia   |
| NFK | Norfolk Island  |
| NGR | Niger (Republic of the)   |
| NIG | Nigeria (Federal Republic of)   |
| NIU | Niue Island   |
| NMB | Namibia (Republic of)   |
| NOR | Norway  |
| NPL | Nepal   |
| NRU | Nauru (Republic of)   |
| NZL | New Zealand   |
|     |   |
| OCE | French Polynesia  |
| OMA | Oman (Sultanate of)   |
|     |   |
| PAK | Pakistan (Islamic Republic of)  |
| PAQ | Easter Island (Chile)   |
| PHL | Philippines (Republic of the)   |
| PHX | Phoenix Islands   |
| PLM | Palmyra Island (some 50 islands make up the Atoll of Palmyra)                             |
| PLW | Palau (Republic of)   |
| PNG | Papua New Guinea  |
| PNR | Panama (Republic of)  |
| POL | Poland (Republic of)  |
| POR | Portugal  |
| PRG | Paraguay (Republic of)  |
| PRU | Peru  |
| PTC | Pitcairn Island   |
| PTR | Puerto Rico (including Culebra, Mona, and Vieques) (not for use in GMF; for ITU use only) |
|     |   |
| QAT | Qatar (State of)  |
|     |   |
| REU | Reunion (French Department of)  |
| ROD | Rodriguez   |
| ROU | Romania   |
| RUS | Russian Federation  |
| RRW | Rwandese Republic   |
|     |   |
| S   | Sweden  |
| SCN | Saint Christopher and Nevis   |
| SDN | Sudan (Republic of the)   |
| SEN | Senegal (Republic of)   |
| SEY | Seychelles (Republic of)  |
| SHN | Saint Helena  |
| SLM | Solomon Islands   |
| SLV | El Salvador (Republic of)   |
| SMA | American Samoa  |

|     |   |
|-----|---|
| SMO | Western Samoa (Independent State of)  |
| SMR | San Marino (Republic of)  |
| SNG | Singapore (Republic of)   |
| SOM | Somali Democratic Republic  |
| SPM | Saint Pierre and Miquelon (French Department of)  |
| SRL | Sierra Leone  |
| STP | Sao Tome and Principe (Democratic Republic of)  |
| SUI | Switzerland (Confederation of)  |
| SUR | Suriname (Republic of)  |
| SVK | Slovak Republic   |
| SVN | Slovenia (Republic of)  |
| SWN | Swan Islands  |
| SWZ | Swaziland (Kingdom of)  |
| SYR | Syrian Arab Republic  |
| TCA | Turks and Caicos Islands  |
| TCD | Chad (Republic of)  |
| TGO | Togolese Republic   |
| THA | Thailand  |
| TKL | Tokelau Islands   |
| TJK | Tajikistan (Republic of)  |
| TKM | Turkmenistan  |
| TMP | East Timor  |
| TON | Tonga (Kingdom of)  |
| TRC | Tristan da Cunha  |
| TRD | Trinidad and Tobago   |
| TUN | Tunisia   |
| TUR | Turkey  |
| TUV | Tuvalu  |
| TZA | Tanzania (United Republic of)   |
| UAE | United Arab Emirates  |
| UGA | Uganda (Republic of)  |
| UKR | Ukraine   |
| URG | Uruguay (Eastern Republic of)   |
| USA | The 48 contiguous States of the United States of America and the District of Columbia<br>(excludes the States of Alaska and Hawaii) |
| UZB | Uzbekistan (Republic of)  |
| VCT | St. Vincent and the Grenadines  |
| VEN | Venezuela (Republic of)   |
| VIR | United States Virgin Islands (St. Croix, St. John, St. Thomas) (not for use in GMF; for ITU<br>use only)                            |
| VRG | British Virgin Islands  |
| VTN | Viet Nam (Socialist Republic of)  |
| VUT | Vanuatu (Republic of)   |
| WAK | Wake Island   |
| WAL | Wallis and Futuna Islands   |
| YEM | Yemen (Republic of)   |
| YUG | Yugoslavia (Federal Republic of)  |
| ZAI | Zaire (Republic of)   |
| ZMB | Zambia (Republic of)  |
| ZWE | Zimbabwe (Republic of)  |

## ANNEX D - MANUFACTURER CODES

This annex contains those manufacturer codes that will be used as part of the data entered in data items 340,345,440 or 445.

|     |   |
|-----|---|
| ASP | A/S S.P. Radio  |
| AHS | A. H. Systems, Inc.   |
| ARD | A.R. & D. Co.   |
| AAC | AACOMM Inc.   |
| AAN | AANDERAA Instruments  |
| ABC | AB Net Corp.  |
| ABA | ABA Electronics Mechanical System                           |
| ACS | AC Sparkplug Co.  |
| ACC | ACE Communications  |
| ACN | ACE R/C Inc.  |
| ACL | ACR Electronics   |
| ACR | Acrodyne or Acrodyne Industries Inc.                        |
| ADU | ACS (Advanced Communications System Inc.)                   |
| ADR | Adams Russel  |
| ACO | Adcole Corp.  |
| ADD | Addison Industries Ltd.                                     |
| ADL | Adler Electronics Co. or Adler Educational Systems Division |
| ADM | Admiral Corp.   |
| ADI | Advance Communications Inc.                                 |
| ALI | Advance Devices Lab. Inc.                                   |
| AVS | Advanced Countermeasures Systems                            |
| ADE | Advanced Electromagnetic Inc.                               |
| ADC | Advanced Electronics  |
| ATE | Advanced Tech Talk  |
| ATF | Advanced Techcom Inc.                                       |
| ATN | Advanced Telemetry International                            |
| ATS | Advanced Telemetry Systems, Inc.                            |
| ATX | Advanced Training Systems                                   |
| ADT | Advanced Videotech Corp.                                    |
| AEA | AEA Electronic LTD  |
| ASQ | AEI: Electronics Ltd. or Associated Electrical Industries   |
| ADF | AEL Defense Corporation                                     |
| AMC | Aeornca Manufacturing Corp.                                 |
| AEO | Aer-O-Com   |
| AED | Aero Electronics Development                                |
| AGA | Aero Geo-Astro Corp.  |
| ARW | Aero Wave   |
| ADY | Aerodyne  |
| AJE | Aerojet Electosystems                                       |
| AJT | Aerojet Precision Weapons Co.                               |
| ACE | Aeronautical Communications Equipment Inc.                  |
| AER | Aeronautical Electronic Inc.                                |
| ARJ | Aeronautical Radio Inc. or ARINC                            |
| ANF | Aeronutronic Ford   |
| AES | Aerosonic Corp.   |
| ARI | Aerospace Research Inc.                                     |
| ARN | Aerotron, Inc.  |
| AVN | Aerovironment   |
| AET | Aertech Inc.  |



|     |  |
|-----|--|
| AGN | AGA Navigation Aids Limited              |
| AIN | Ainslie Corp.                            |
| AOC | Air Associates Co.                       |
| AOM | Air Comm Electronics                     |
| ACI | Air Communications Inc.                  |
| AAL | Air Force Avionics Lab                   |
| AFL | Air Force Lab Built                      |
| AIS | Air Science Inc.                         |
| ASW | Air Target Sweden                        |
| AIL | Airborne Instrument Laboratories         |
| ACA | Aircraft Accessories Corp.               |
| AAI | Aircraft Armaments Inc.                  |
| AMR | Aircraft-Marine Radio Corp.              |
| APD | Aircraft Products Co.                    |
| ARC | Aircraft Radio Corp.                     |
| AIE | Aire-Sciences, Inc.                      |
| AIR | Aireon Manufacture Corp.                 |
| AIO | AIRONET                                  |
| AYI | Airport Systems International, Inc.      |
| ATR | Airtronics Inc.                          |
| ALA | Alakai Electronics                       |
| AAM | Alascom Inc.                             |
| ACT | ALCATEL                                  |
| ALM | Alcom Limited                            |
| ALD | Alder Electronics Inc.                   |
| ALN | Alenia Spazio                            |
| ALP | Aleph Inc.                               |
| AHI | Aleth Inc.                               |
| ALF | Alford Manufacturing Co.                 |
| ALE | Alfred Electronics                       |
| ALO | Alineco                                  |
| APC | All Products                             |
| ACW | Allen D. Cardwell Co.                    |
| AOA | Allen Osbourne Associates, Inc.          |
| ALG | Allgon Antenna AD                        |
| AEC | Allied Electronics Corp.                 |
| ART | Allied Radio Shack                       |
| ASG | Allied Signal Commercial Aviation System |
| ALL | Allison Electronics                      |
| AIA | Alpha Industries, Inc.                   |
| AMQ | Als Marine Radio                         |
| ALT | Altech Lansing                           |
| ASI | Alto Scientific Inc.                     |
| ALU | Aluma Tower Co.                          |
| ALV | Alva Radio Industries                    |
| ABR | Amber Electro Design, Inc.               |
| AMT | Amcor                                    |
| AMD | AMD Electronics                          |
| AME | AMECO Equipment Corp.                    |
| AMI | Amecom Division                          |
| ATI | Amerasia Technology Inc.                 |

|     |   |
|-----|---|
| AEL | American Electric Laboratories Inc. or American Electronic Laboratories |
| ALS | American Laser Sys Technology   |
| AMF | American Machine and Foundry Co.  |
| AMN | American Nucleonics Corp.   |
| AMO | American Optical Corp.  |
| AMS | American Systems  |
| ATT | American Telephone & Telegraph  |
| ATD | American Training Aid   |
| AEX | Amex Systems, Inc.  |
| AMH | Amherst Systems, Inc.   |
| AMX | Ampex Corp.   |
| AMP | Amphenol Canadian Ltd. or Amphenol Dist. Division                       |
| ARR | Amplifier Research Corp.  |
| ANN | Anderson Lab  |
| ANA | Andrew Antenna Corporation Ltd.   |
| ANC | Andrew California Corp.   |
| AND | Andrew Corp.  |
| AXM | Anixter-Mark  |
| ANM | Anram Electronics   |
| ANI | Antac Industries, Inc.  |
| ATH | Antech Corp.  |
| ANE | Antenna Electronics Co.   |
| ANL | Antenna Laboratories Inc.   |
| ANP | Antenna Products Co.  |
| ANR | Antenna Research Associates   |
| ANS | Antenna Specialists Co.   |
| ASY | Antenna Systems Inc.  |
| ATG | Antenna Technology Communications, Inc.                                 |
| AFC | Antennas for Communications   |
| ANY | Any & Company Ltd.  |
| ANZ | Anzac Industries  |
| AOR | AOR, Ltd.   |
| APE | Apelco or Applied Electronics Co.                                       |
| APO | Apollo Manufacturing Co.  |
| APP | Applied Communications  |
| ABB | Applied Communications, Division of Amstar                              |
| APV | Applied Devices Corp.   |
| AEM | Applied Electro Mechanics, Inc.   |
| ALC | Applied Research Corp.  |
| API | Applied Research, Inc.  |
| APA | Applied Specialities Inc.   |
| APS | Applied Systems Engineering   |
| APT | Applied Technology  |
| ARF | ARF Products, Inc.  |
| ARK | Arkay International Inc.  |
| ANT | Arnet   |
| ARA | ARTAIS Inc.   |
| ARB | Artars Inc.   |
| ARX | ARTEX Inc.  |
| ARV | Arvin Industries Inc.   |
| ASA | Asahi Optical Co.   |
| ASN | Aselsan   |
| ARS | Associated Radio Service Co.  |

|     |  |
|-----|--|
| ASE | Astral Electronics Inc.                                      |
| AST | Astro Communication Laboratories or Astaron Electronics Ltd. |
| ATC | Astro Telecom Corp.  |
| ASM | Astromarine Products Corp.                                   |
| ASU | Astronautics of America                                      |
| ASC | Astronomics Corp.  |
| ATA | Atacs Corp.  |
| ATB | ATCI Antennas  |
| ARL | Atir Limited   |
| AAE | Atlantic Aerospace Electronics Corp.                         |
| ATL | Atlantic Instrument & Electronics Inc.                       |
| ARE | Atlantic Research Corp.                                      |
| All | Atmospheric Instrument Research, Inc.                        |
| AIC | Atmospheric Instrumentation Research Corp.                   |
| AID | Audio Intelligence Devices Inc.                              |
| AUD | Audio-Sine, Inc.   |
| ADV | Audio-Vac  |
| AVX | Audiovox   |
| AUA | Austin Custom Antennas                                       |
| AUM | Austin Microwave   |
| AUS | Austron  |
| ATM | Automation Inc.  |
| AUT | Autonetics   |
| AUP | AUTOPHON   |
| ATO | Autotape   |
| AUR | Autronics  |
| AVK | Avantek  |
| AVA | Avanter Inc.   |
| AVC | Avco Corp.   |
| AEP | Aviation Electric Pacific Ltd.                               |
| AEI | Avion Electronics Inc.                                       |
| AVI | Avitron Inc.   |
| AVM | AVM Instrument Co.   |
| AVT | Avtek Co.  |
| AYD | Aydin  |
| AZD | Azden Inc.   |
|     |  |
| BKM | B-K Manufacturing Co.  |
| BCA | Babcock Aerospace  |
| BAB | Babcock Electronics Corp.                                    |
| BAI | Baird Corp.  |
| BLS | Balise   |
| BRL | Balistic Research Laboratory                                 |
| BAA | Ball Aerospace   |
| BAL | Ball Brothers  |
| BWI | Barker Williamson  |
| BAR | Barrett Electronics  |
| BAC | Barry Research Corp.   |
| BTX | Bartex, Co.  |
| BAE | Barth Engineering & Mfg. Co.                                 |
| BAS | Bauer Electronic Manufacturing Co.                           |
| BAU | Bauer Electronics Corp.                                      |
| BAY | Bayside Electronics Co.                                      |

|     |   |
|-----|---|
| BEI | Bayside Electronics Inc.                      |
| BDM | BDM Corp.                                     |
| BEB | Beckman/Berk                                  |
| BEC | Beckman Instruments Inc.                      |
| BEE | Beech Aircraft Corp.                          |
| BEM | Belair Electronic Laboratory                  |
| BHC | Bell & Howell Communications Co.              |
| BLH | Bell Helicopter Textron Inc.                  |
| BEL | Bell Telephone                                |
| BRC | Belmont Radio Corp.                           |
| BCO | Benco TV Associates Ltd. Canada               |
| BTB | Benco TV Associates Ltd.                      |
| BEN | Bendix Corp. or Bendix Aviation Corp.         |
| BEG | Bendix/King Mobile Communications             |
| BMR | Benmar  |
| BNM | Benmar Division of Computer Equipment         |
| BNR | Benrad Inc.                                   |
| BWC | Benrus Watch Co.                              |
| BED | Berkeley Division of Beckman Instruments Inc. |
| BER | Bertea Products or Bertea Corporation         |
| BET | Beta Co.                                      |
| BUK | Beukers Co.                                   |
| BDS | Bidirectional Microwave Systems               |
| BIG | Biggs Associates Inc.                         |
| BIO | Biocom Inc.                                   |
| BIR | Bird Electronic Corp.                         |
| BII | Bison Instruments Inc.                        |
| BIT | BITRO   |
| BKG | BKM Electronics                               |
| BLA | Blau-Knox Co.                                 |
| BTL | Blonder Tongue Laboratory Inc.                |
| BLU | Bludworth or Bludworth Marine Division        |
| BOA | Boeing Aerospace                              |
| BOE | Boeing Aircraft                               |
| BOP | Bogan-Presto                                  |
| BCD | Bogen Comm Division Lear Siegler              |
| BON | Bonner Specialties                            |
| BZR | Bonzer Inc.                                   |
| BOT | Boonton Electronics Corp.                     |
| BRA | BR Communications                             |
| BRE | Brelonix Inc.                                 |
| BRI | Bristol Aerospace Ltd.                        |
| BAP | British Aerospace Public, Ltd.                |
| BCC | British Communications Corp.                  |
| BSC | British Standard Cable Co.                    |
| BTH | British Thompson Houston, Ltd.                |
| BRT | Broadcast Electronics                         |
| BMS | Broadcast Microwave Services                  |
| BRD | Broadcomm                                     |
| BRO | Browning Communications Associates            |
| BLI | Browning Laboratories Inc.                    |
| BBR | Brubaker Mfg. Co., Inc.                       |
| BRU | Brunswick Co.                                 |

|     |   |
|-----|---|
| BUD | Budelman Electronics Corp.                                |
| BRW | Bunker Ramo World Services Corp.                          |
| BJH | Bunnell J.H. Co.  |
| BTI | Burle Technologies, Inc.                                  |
| BUR | Burton Instrumentation Inc.                               |
| BUT | Butler National Corp.                                     |
| CWR | C.W. Radiation Co.  |
| CBW | Cable Waves   |
| CAD | Cadre Division of Amphenol                                |
| CFM | California Microwave                                      |
| CLT | California Technology                                     |
| CLN | Calspan Corp.   |
| CMB | Cambridge Consultants                                     |
| CFD | Camfield Mfg. Co.   |
| CIA | Campatnia Industrial Aerospace                            |
| CAB | Campbell Manufacture Company Ltd.                         |
| CAA | Canadian Arsenals Ltd.                                    |
| CAE | Canadian Aviation Electronics                             |
| CGE | Canadian General Electric Co. or Canadian GE Company Ltd. |
| CAM | Canadian Marconi  |
| CMO | Canadian Motorola   |
| CAR | Canadian Radio Corp.                                      |
| CAT | Canadian Telephone Co.                                    |
| CAW | Canadian Westinghouse                                     |
| CNN | Cannon Electronics  |
| CAN | Canoga Electronics Corp.                                  |
| CNY | Canyon Communications Corp.                               |
| CAH | Capehart Corp.  |
| CDN | Cardian Electronics                                       |
| CCC | Cardion Communications Corp.                              |
| CDW | Cardwell Mfg. Co.   |
| CCK | Carlson Communication Inc.                                |
| CRY | Carry Phone Corp.   |
| CTP | Carterphone Communications                                |
| CRT | Cartwright Electronics, Inc.                              |
| CWI | Cartwright, Inc.  |
| CVL | Carvill International Corp.                               |
| CTR | Cattron, Inc.   |
| CBM | CBM Electronics   |
| CCA | CCA Electronics Corp.                                     |
| CEO | Celesco Industries  |
| CLW | Celwave Systems   |
| CER | Centry Research Corp.                                     |
| CME | Century Metal Parts Corp.                                 |
| CAC | Cessna Aircraft Co.                                       |
| CET | CETEC Vega  |
| CHE | Challenger Electronics Corp.                              |
| CHV | Chance Vought Aircraft Corp.                              |
| CHA | Channel Master Corp.                                      |
| CHK | Checker Electronics Corp.                                 |
| CES | Checkpoint Systems, Inc.                                  |
| CHL | Chelton Inc.  |

|          |   |
|----------|---|
| CTN      | Chemrad Tennessee Corp.                               |
| CHT      | Chester Electronics                                   |
| CHD      | Childs  |
| CNA      | China Electronic Import and Export Corp.              |
| NRN      | China North Industries Corp.                          |
| CHR      | Chris Craft Corp.                                     |
| CHU      | CHU Associates  |
| CIN      | Cincinnati Electronic Corp.                           |
| CIR      | CIR Industries  |
| CSR      | Citizen Ship Radio Corp.                              |
| CIT      | Citizens Radio Corp.                                  |
| CLM      | Clairmonte Industries                                 |
| CLI      | Clark Instrument Co.                                  |
| CLD      | Clegg Division of International Signal & Control      |
| CLE      | Clegg Laboratories, Division of Squires-Saunders Inc. |
| CEI      | Cleveland Electronics Inc.                            |
| CED      | Cleveland Electronics Inc.                            |
| CMI      | CMI Inc.  |
| CCF      | Coastal Climate Company                               |
| CBR      | Cober Electronics Inc.                                |
| COB      | Cobra   |
| COH      | Cochran   |
| CDR      | Codar Ocean Sensors                                   |
| CCR      | Coherent Radiation Co.                                |
| COL      | Collins Radio Co.                                     |
| CRC      | Collins Radio of Canada                               |
| CRR      | Colonial Radio Corp.                                  |
| CEL      | Colorado Electronics                                  |
| CCO      | Colt Communications Corp.                             |
| CBC      | Columbian Bronze Corp.                                |
| CHI      | Columbian Hydronxionics Inc.                          |
| CEC      | Columbus Electronics Corp.                            |
| CNE      | Com/Nav Electronics                                   |
| CRE      | Comaire Electronics                                   |
| CNT      | Comant  |
| CCE      | Comelit Compagnia Electronics                         |
| CRB      | Commercial Resources Communications                   |
| CAI      | Communication Associates Inc.                         |
| COC      | Communication Co.                                     |
| COE(CEI) | Communication Electronics Co.                         |
| CEE      | Communication Equipment and Engineering Co.           |
| COA      | Communication Specialities                            |
| CAP      | Communications Applied Technology                     |
| CCI      | Communications Carriers, Inc.                         |
| CCJ      | Communications Co., Inc.                              |
| CCM      | Communications Components Corp.                       |
| CUC      | Communications Devices Co.                            |
| CEN      | Communications Engineering Co.                        |
| CII      | Communications Industries Inc.                        |
| CML      | Communications Measurement Laboratory                 |
| COP      | Communications Products Co.                           |
| CSS      | Communications Satellite Corp.                        |
| CSP      | Communications Specialists                            |

|     |   |
|-----|---|
| CMT | Communitronics  |
| CMU | Communitronics Ltd.                                     |
| CPD | Compudyne Corp. EWQI Division                           |
| CPA | COMPUTALERT   |
| CDB | Computing Devices Co.                                   |
| COM | Comrex  |
| CMR | COMSAT, RSI   |
| COI | Comtech Lab, Inc.                                       |
| CMW | Comwave   |
| CWE | COMWAVE   |
| CRP | Concord Electronics Corp.                               |
| COD | Conduction Corp.  |
| CNC | Conic Corp.   |
| CNR | Conifer   |
| CTT | Connecticut Telephone & Electric                        |
| CDI | Consultants and Designers Inc.                          |
| CCH | Consultants Choice Inc.                                 |
| CCP | Continental Electric Corporation                        |
| CON | Continental Electronics Ltd.                            |
| CEM | Continental Electronics Manufacturing Co.               |
| COR | Continental Radio                                       |
| CTM | Continental Microwave and Tool Co.                      |
| COT | Contraves AG  |
| CNI | Contraves Italiana                                      |
| CCB | Control Chiefs, Inc.                                    |
| CDC | Control Data Co.  |
| CCD | Control Industries                                      |
| CLC | Control Laser Corp.                                     |
| CSI | Control Science Inc.                                    |
| CVR | Convair   |
| CKC | Cook Communications Corp.                               |
| COK | Cook Electric Co.                                       |
| CAL | Cornell Aeronautical Laboratories Inc.                  |
| COO | Coro Metrics Medical Industries                         |
| CMS | Cosmos Industries                                       |
| COS | Cosser Electronics                                      |
| CIL | Cossor Instruments Ltd. (UK) or Cossor Electronics Ltd. |
| COU | Courier Communications Inc.                             |
| CRA | Craig System Inc.                                       |
| CRF | Crofs Electric Co.                                      |
| CRO | Crosley   |
| CRH | Crouse-Hinds  |
| CRN | Crylarm   |
| CSA | CSI Electronics   |
| CTA | CTA Space Systems                                       |
| CTC | CTI Corp.   |
| CUB | Cubic Co.   |
| CIC | Cubic Industrial Corp.                                  |
| CUL | Culbertson Industries Inc.                              |
| CUR | Curtis Wright Corp.                                     |
| CUS | Cush Craft  |
| CUM | Custom Electronic Manufacturing Co.                     |
| CSC | Customs Signal Corp.                                    |

|     |   |
|-----|---|
| CUT | Cutler Hammer Inc. or AIL Division of Cutler Hammer |
| CYB | Cyber Mation  |
| CYT | Cybernet International, Inc.                        |
| CYL | Cylink Corporation                                  |
| DAG | Dage Electric Co.                                   |
| DAV | Dalmo Victor Co.                                    |
| DAN | Daniels Electronics Limited                         |
| DAM | Danmar  |
| DAR | Dare Inc.   |
| DAT | Data Control Systems                                |
| DMI | Data Marine International                           |
| DPR | Data Products Inc.                                  |
| DRK | Data Radio Corp.                                    |
| DTS | Data Transmission Science, Inc.                     |
| DTW | Datawell  |
| DTM | Datum   |
| DVT | Dav-Tron Co.  |
| DAE | Davco Electronics Inc.                              |
| DOP | Davidson Optronics                                  |
| DVS | Davis Co.   |
| DAY | Daystrom Inc.                                       |
| DAP | Dayton Aircraft Products Inc.                       |
| DGI | Dayton Granger Inc.                                 |
| DSI | Daytron Systems Inc.                                |
| DBM | 3 DBM Systems                                       |
| DCF | DCF Systems Ltd.                                    |
| DBS | De Bernardi   |
| DEB | DEBEG-GMBH  |
| DCE | Decatur Electronics, Inc.                           |
| DNS | Decca Navigator Systems Inc.                        |
| DRI | Decca Radar Inc.                                    |
| DEA | Decca Radar Ltd. UK                                 |
| DEC | Decibel Products Inc.                               |
| DCI | Defense Communications Engineering Inc.             |
| DEI | Defense Electronics                                 |
| DSY | Defense Systems Inc.                                |
| DEF | Deferral  |
| DMT | Defiance Machine Tool Co.                           |
| DLN | Del Norte   |
| DNT | Del Norte Technology Inc.                           |
| DCM | Delcom  |
| DFN | Delfin  |
| DFL | Dell Space Star                                     |
| DLF | Dell Space Star                                     |
| DEL | Delmar Engineering Laboratories                     |
| DES | Delstar Corp.                                       |
| DEM | Demco Electronics                                   |
| DLB | Denrolab  |
| DER | Dentron Radio Corporation                           |
| DRD | Dero Research Development Corp.                     |
| DRG | Deskin Research Group                               |
| DET | Detroit Bullet Trap Co.                             |



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|-----|---|
| DEV | Develco Inc.  |
| DEW | Dewey GC Inc.   |
| DJH | Dewitt, John H.   |
| DHV | DHV Inc.  |
| DIC | Diamond Antenna-Microwave Co.                             |
| DIL | Diamond Laboratories                                      |
| DJC | Dickey-John Corp.   |
| DIE | Dielectric Products Engineering Company Inc.              |
| DMC | Digital Microwave Corp.                                   |
| DIG | Digital Radio   |
| DIT | Digitize, Inc.  |
| DIM | Dimick Manufacture Corp.                                  |
| DIR | Direction Corp.   |
| DIV | Divco Wayne Corp.   |
| DVR | Diversitel Communications Inc.                            |
| DIX | Dixon Industries Corp.                                    |
| DNE | DNE Technologies, Inc.                                    |
| DOE | Domestic Radio  |
| DOI | Domino, Inc.  |
| DOL | Doolittle Radio Inc.                                      |
| DAD | Door Alarm Devices Corp.                                  |
| DOS | Doresett Electronics Division (Labarge, Inc.)             |
| DOM | Dorne Margolin Inc.                                       |
| DOR | Dorsett Laboratories                                      |
| DOU | Douglas Aircraft  |
| DGR | Douglas Randall Div. of W.K. Radio Alarm Box              |
| DOW | Dow Chemical Co.  |
| DRA | Drake RF Co.  |
| DRS | Dressler Engineering Inc.                                 |
| DRP | DRS Precision Echo Inc.                                   |
| DSC | DSC Communications  |
| DMR | Dubose Marine Radio                                       |
| DUB | Dubrow Development Co.                                    |
| DUT | Duelatron   |
| DLA | Dumont Division of Ling Altec Inc.                        |
| DUM | Dumont Laboratories or Dumont, Allen B. Laboratories Inc. |
| DYM | Dymec   |
| DMD | Dyna Magnetic Devices                                     |
| DYR | Dynair Electronics  |
| DLC | Dynalab Corp.   |
| DYA | Dynalec Corp.   |
| DYC | Dynamic Communications                                    |
| DYS | Dynascan Corp.  |
| DYN | Dynatronics Inc.  |
|     |   |
| ESY | E-Systems   |
| EAG | Eagle-Picker Industries Inc.                              |
| EAT | Eagle Technologies Inc.                                   |
| EAR | Earmark, Inc.   |
| EAK | Easker  |
| EAS | Eastern Industries Inc.                                   |
| EMW | Eastern Microwave Corp.                                   |
| ECL | Eaton Corp. AIL DIVN.                                     |

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| EBC | EB Corp.                               |
| EBN | EB-Nera                                |
| ETR | Ecatek                                 |
| ETK | Ecatek Inc.                            |
| ECC | ECI Telecom LTD                        |
| ECO | Econolite                              |
| ECR | EDCOR                                  |
| EDI | Edison Pageitalia                      |
| EDL | Edler Industries                       |
| EDR | EDO Aire                               |
| EDO | EDO Corp.                              |
| EEB | EEB (Electronic Equipment Bank)        |
| EER | EER Systems                            |
| EFD | EF Data                                |
| EEL | EICO Electronics Instruments Co.       |
| EIT | Eitel Electronics                      |
| EIM | Eitel McCullough Inc. (EIMAC)          |
| EKP | EK Products Inc.                       |
| ELD | Eldico Electronics                     |
| ELO | Eldorado Electrodata                   |
| ELI | Electrac Inc.                          |
| EST | Electric Service Co.                   |
| EVC | Electric Voice Corp.                   |
| EDA | Electro Data Inc.                      |
| EMA | Electro Magnetic Sciences Co.          |
| EMR | Electro Mechanical Research Inc.       |
| EMH | Electro-Mechanics Co.                  |
| EOS | Electro Optical Systems                |
| ELR | Electrofab                             |
| ELF | Electrofact NV                         |
| EGD | Electrogarde, Inc.                     |
| ELB | Electrolab                             |
| ETC | Electromagic Technology Corp.          |
| EMP | Electromagnetic Processes, Inc.        |
| ELS | Electromagnetic Sciences, Inc.         |
| ESL | Electromagnetic Spectrum Laboratory    |
| EIP | Electromatic, Inc.                     |
| EMS | Electrometrics                         |
| ELE | Electron Corp.                         |
| EDC | Electronic Development Corp.           |
| EDZ | Electronic Devices Corp.               |
| EEC | Electronic Engineering Co.             |
| ELL | Electronic Laboratories Ltd.           |
| ELM | Electronic Material International Ltd. |
| ENC | Electronic Navigation Corp.            |
| ENI | Electronic Navigation Instruments      |
| ESQ | Electronic Signal Products             |
| ESP | Electronic Speciality Co.              |
| ESS | Electronic Support Systems, Inc        |
| ESE | Electronic System Technology           |
| ETS | Electronic Systems Technology          |
| EMD | Electronics & Manufacturing Co.        |
| ECI | Electronics Communications Inc.        |

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| ELC | Electronics Concepts Inc.                          |
| EMC | Electronics Missiles Communications Inc.           |
| ERI | Electronics Research Industries                    |
| ECT | Electrotape  |
| ELT | Electrotechnic Corp.                               |
| EES | Elisra Electronics System, Ltd.                    |
| ELA | Ellason  |
| EOI | Elmer (Italy)                                      |
| EAI | Elta-Ashdod Israel                                 |
| ELU | Elts Unlimited Inc.                                |
| EII | EMC Instrument Co.                                 |
| EEE | EMCEE, Co.   |
| EMB | Emergency Beacon Corp.                             |
| EEL | Emerson Electric Co.                               |
| EME | Emerson Research Labs                              |
| ERD | Emhiser Rand                                       |
| ERX | Emhiser Research Inc.                              |
| EMI | EMI-Cossor Electronics Ltd. or EMI Marine Division |
| EML | EMI Electronics Ltd.                               |
| EMT | EMR (Sangamo Weston, Inc.)                         |
| ENA | ENAC/Triton Corp.                                  |
| ECM | Encomm Inc.  |
| END | ENDECO   |
| ESI | Energy Systems Inc.                                |
| EGX | Energy-Onix  |
| ENG | Engineering Services                               |
| ETE | Enterprise Electronics Inc.                        |
| EDE | Environment Development Corp.                      |
| EPS | EPSCO Inc.   |
| ERP | Erapsco  |
| ERC | ERCO Radio Laboratories                            |
| ERN | Erichson   |
| ERA | Ericsson, L.M. Ltd.                                |
| EGG | Ernst, Grier Germerhausen Co.                      |
| ESC | ESCO   |
| ESD | ESL Inc.   |
| ESM | Espey Manufacturing Co.                            |
| ESN | Espey Mfg Electronics                              |
| ESR | Esterline  |
| EKA | Eureka Sys Inc.                                    |
| EUU | European Antennas                                  |
| ESG | Eurosattelite GMBH                                 |
| EXE | Executive Communications                           |
| EXT | Executone Inc.                                     |
| EXI | EXICOM New Zealand Limited                         |
| EYR | Eyring Research Institute                          |
|     |  |
| FHM | F & H Manufacturing Corp.                          |
| FAM | F & M Electronics                                  |
| FFE | F-F Electronics                                    |
| FGE | F. G. Engineering                                  |
| FWC | F.W. Carpenter Manufacturing Co.                   |
| FCM | Fairchild Camera and Instruments                   |

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| FAC | Fairchild Engineering Corp.                 |
| FAI | Fairchild Stratos                           |
| FAN | Fannon                                      |
| FAG | Fargo Co.                                   |
| FEC | Farinon Electric                            |
| FMI | Farinon Microwave                           |
| FAR | Farnsworth TV Radio                         |
| FAA | Federal Aviation Administration             |
| FCC | Federal Communication Corp.                 |
| FSS | Federal Sign and Signal                     |
| FSR | Federal Signal Radio                        |
| FET | Federal Telegraph Co.                       |
| FED | Federal Telephone Radio Corp.               |
| FEM | FEMCO Inc. or Femco Div. Gulton Industries  |
| FER | Ferguson Communications Inc.                |
| FIB | Fibercom                                    |
| FIG | Figgie International                        |
| FIL | Filmdex Corp.                               |
| FCO | FINCO                                       |
| FIN | Finney Co.                                  |
| FRL | Fisher Research Laboratory Inc.             |
| FLA | Flam and Russell                            |
| FLL | Flight Refuel, Ltd.                         |
| FLR | Flir Systems Inc.                           |
| FLT | Flite-Tronics                               |
| FEI | Florida Communications and Electronics Inc. |
| FLO | Flotronic Products Inc.                     |
| FON | Fontek                                      |
| FAS | Ford Aerospace Corp.                        |
| FOR | Fort Worth Tower Co.                        |
| FOS | Foster Airdata Systems Inc.                 |
| FAP | Fran Air Products Co.                       |
| FRA | Francis Industries, Inc.                    |
| FAL | Frant, Alan I.W.                            |
| FRV | Fraser-Volpe                                |
| FEL | Frequency Engineering Laboratories          |
| FSI | Frequency Source, Inc.                      |
| FUE | Fuchs Electronics                           |
| FUJ | Fujitsu Tem Corp. of America                |
| FUR | Furuno                                      |
| FUT | Futaba                                      |
|     |   |
| GLR | G&L Marine Radio                            |
| GAB | Gabriel Corp.                               |
| GEI | Galaxy Electronics Inc.                     |
| GMS | Galaxy Micro Systems Inc.                   |
| GAM | GAM Electronics Inc.                        |
| GAW | Gamewell Division of Gulf & Western         |
| GAR | Garrett Manufacturing Ltd.                  |
| GAD | Gates American Corp.                        |
| GAT | Gates Radio Co.                             |
| GEC | GEC Telecommunications Ltd.                 |
| GEM | Gem Marine Products                         |

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| GTS | Gemtronics   |
| GEV | Genave   |
| GAC | General Atronics Corp.   |
| GAE | General Aviation Electronics   |
| GAP | General Avionics   |
| GBC | General Bronze Corp.   |
| GDC | General Development Corp.  |
| GDE | General Dynamics/Electronics   |
| GEN | General Electric Corp.   |
| GEE | General Electric England   |
| GEL | General Electronics Laboratories Inc.                                    |
| GIC | General Instrument Corp.   |
| GMI | General Microwave Corporation  |
| GME | General Microwave Services   |
| GMC | General Motors Corp.   |
| GPI | General Precision Inc. Ltd. (UK)   |
| GPL | General Precision Laboratories or Singer-General Precision Inc.          |
| SGR | General Precision Laboratory Inc.  |
| GRC | General Radio Co.  |
| GRT | General Radiotelephone Co.   |
| GSE | General Service Engineering  |
| GEP | Genesys Systems  |
| GSS | Geo Space Systems Inc.   |
| GDN | Geodynamics Corp.  |
| GEO | Geodyne Corp.  |
| GOM | Geomation  |
| GIT | Georgia Institute of Technology  |
| GOT | Geotel Development   |
| GHH | GH Harlow, Inc.  |
| GIB | Gibson Antennas  |
| GIL | Gilfillan Bros Inc.  |
| GIM | Gimeni III   |
| GLB | GLB Electronics, Buffalo, N.Y.   |
| GYE | Glenayre   |
| GLO | Globe Industries   |
| GDI | Godfrey Engineering Inc.   |
| GON | Gonset Corp. or Gonset Division of Aerotron or Dumont Division of Gonset |
| GOA | Goodyear Aerospace Corp.   |
| GOU | Gould Inc.   |
| GAL | Granger Associates Ltd.  |
| GRA | Granger Associates or Bauer Broadcast Division of Granger                |
| GTC | Granite Telecom Corp.  |
| GNT | Grant Applied Physics  |
| GRY | Gray Radio Company Inc.  |
| GRR | Green Mountain Radio Research  |
| GRO | Ground Data Corp.  |
| GRU | Gruen Watch Co.  |
| GAS | Grumman Aero Space Corp.   |
| GTL | GTE Lenkurt  |
| GTP | GTE Products Corp.   |
| GTE | GTE Sylvania: See Also Sylvania  |
| GUD | Gudeman Co.  |
| GUL | Gulton   |

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| GII | Gulton Industries Inc.  |
| GYR | Gyrodyne Co.  |
| HRM | H.R. Smith  |
| HCC | Hal Communications  |
| HSA | Hallands Signal Attaraten                                     |
| HAL | Hallicrafter Co.  |
| HAI | Hallmark Instruments Inc.                                     |
| HSD | Halstead  |
| HUA | Hamilton Standard Division-United Aircraft                    |
| HAM | Hammarlund Manufacturing Co. or Dumont Division of Hammarlund |
| HMT | Hamtronics  |
| HTI | Hamtronics Inc.   |
| HAN | Handar Company  |
| HAE | Harbor Electronics  |
| HES | Harbor Electronics Services                                   |
| HAK | Harkins Radio   |
| HAD | Harris Aerospace Systems Divn.                                |
| HAC | Harris Corp.  |
| HFI | Harris Farinon Inc.   |
| HIC | Harris Intertype Corp.  |
| HJH | Harrison, John H.   |
| HDL | Harry Diamond Lab.  |
| HME | Hartman Marine Electronics Corp.                              |
| HMC | Hartman Marine Equipment Corp.                                |
| HSY | Hartman Systems (Div. of ATO)                                 |
| HAR | Harvey Radio Laboratories Inc.                                |
| HAS | Hastings Raydist Inc.   |
| HSC | Hawkeye Systems Corp.   |
| HAY | Hays Corp.  |
| HAZ | Hazeltine Corp.   |
| HEA | Heath Co.   |
| HEC | Hecules Defense Electronics Systems                           |
| HMK | Heimark Electronics Laboratory                                |
| PFI | Heinz Pfitzner  |
| HRS | Hendy Radio Service   |
| HEN | Hendys Two Way Radio Service                                  |
| HKL | Henitz & Kaufman Ltd.   |
| HRC | Henry Radio Co.   |
| HMS | Herley Microwave Systems                                      |
| HER | Hermer Electronics Ltd.                                       |
| HEP | Hewlett Packard   |
| HIQ | HI-Q Electronics Inc.   |
| HIT | Hittite Microwave   |
| HMI | HM Electronics, Inc.  |
| HOB | Hobby Lobby International                                     |
| HOF | Hoffman Electronics Corp.                                     |
| HLI | Holobeam Laser, Inc.  |
| HON | Honeywell   |
| HOR | Horizon   |
| HAP | Hornet Antenna Products Co.                                   |
| HDS | Household Data Services, Inc.                                 |
| HOU | Houston Corp.   |

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| HRB | HRB Singer Inc.  |
| HTS | HT Systems   |
| HUD | Hudson American  |
| HUG | Hughes Aircraft Co.  |
| HTC | Hughes Tool Co.  |
| HUL | Hull Electronics Co.   |
| HUN | Huntley  |
| HYE | Hy-Gain Electronics Corp.  |
| HYB | Hybrid Network Inc.  |
| HSS | Hydro Space Systems  |
| HYG | Hygain Antenna Products  |
| HYT | Hytel Corp.  |
| HYN | Hytenna  |
|     |  |
| ICM | ICOM   |
| IDE | IDC Electronics  |
| IDI | Identification Devices, Inc.   |
| IEC | IEC Electronics Corp.  |
| IIT | IITRI  |
| IKE | Ikegami Electric Co.   |
| IFD | In Flight Devices Corp.  |
| BHA | India Bharat   |
| ITH | Indiana Technical Corp.  |
| ICS | Industrial Comm Systems  |
| IND | Industrial Radio Corp.   |
| ISS | Information Station Specialist                                       |
| INL | Inland Communications Inc.   |
| INO | Inovonics Corporation  |
| IFR | Instrument Flight Research Corp.                                     |
| IWI | Insulated Wire, Inc.   |
| INE | Intech Inc.  |
| III | Intellitech Industries Inc.  |
| IEI | Intercontinental Electronics, Inc.                                   |
| INM | Intermic   |
| IAL | International Aeradio Ltd.   |
| IBM | International Business Machine Co.                                   |
| ICO | International Corp.  |
| ILS | International Laser Systems, Inc.                                    |
| IMC | International Microwave Corp.  |
| IMM | International Mobile Machine, Inc.                                   |
| IMT | International Mobile Telephone Systems                               |
| IRE | International Radio Electronics Corp.                                |
| ISC | International Signal and Control                                     |
| ISE | International Standard Electric Corp.                                |
| ISY | International Systcoms Ltd.  |
| ITP | International Telephone & Telegraph Corp. or ITT Industrial Products |
| INV | Internav Ltd.  |
| INT | Interstate Electronics Co.   |
| IOT | Interstate Oil Transport Co.   |
| INC | INTRAC   |
| INR | Intrelex Inc.  |
| ISD | ISC Defense Systems  |
| IRC | Islip Radio Corp.  |

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| IAI | Israel Aircraft Industries, Ltd.         |
| ITA | ITA Electronic Corp.                     |
| ITR | Itek Corp.                               |
| ITI | ITI Electronics Inc.                     |
| ITO | ITT Aerospace/Optical                    |
| ITV | ITT Avionics                             |
| ITD | ITT Decca Inc.                           |
| ITF | ITT Defense Communications               |
| ITB | ITT Electron Tube Division               |
| ITT | ITT Federal Laboratories                 |
| ITG | ITT Gilfillan                            |
| ITK | ITT Kellogg Communication System         |
| ITM | ITT Mackay Marine                        |
| IMA | ITT Mobile Communications                |
| ITS | ITT Standard                             |
| ITC | ITT Telecommunications                   |
| JCA | J.C. Air                                 |
| JCC | J.C. Chastain                            |
| JCP | J.C. Penney Company                      |
| JSB | J.S. Betts Co.                           |
| JHS | J&H Smith Mfg., Co.                      |
| JAH | Jahco Inc.                               |
| JAM | Jampro Antenna Co.                       |
| JNL | Janel Labs                               |
| JRC | Japan Radio Co.                          |
| JRL | Japan Remote Control Company, Ltd.       |
| JAC | Jasco International                      |
| JAS | Jasik Laboratory                         |
| JAY | Jay Tapp Inc.                            |
| JAB | Jaybeam                                  |
| JEF | Jefferson Ray Inc.                       |
| TRV | Jefferson Travis                         |
| JER | Jerrold Electronics Corp.                |
| JEP | Jet Propulsion Laboratory                |
| JET | Jetronix                                 |
| JFD | JFD Research-Development Laboratories    |
| JRS | Joes Radio Shop                          |
| JDE | John Deere                               |
| JHU | Johns Hopkins University                 |
| JNN | Johnson Associates                       |
| JCI | Johnson Control, Inc.                    |
| JOH | Johnson E.F.                             |
| JVC | JVC Corp.                                |
| KAL | K and L Microwave Inc., A Dover Tech Co. |
| KFE | K-F Electronics                          |
| KAR | Kaar Engineering                         |
| KRL | Kahn Research Laboratories               |
| KMU | Kalmus                                   |
| KAM | Kaman Electronic Systems Division        |
| KAT | Kathrein Inc.                            |
| KAW | Kawasaki Industries                      |



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| KDK | KDK Inc.   |
| KEA | Kearfott Engineering Corp. USA                   |
| KEB | Kebby Microwave Corp.                            |
| KEI | Keith Anderson Co. or Keith V. Anderson          |
| KEC | KEL Corp.  |
| KTi | Keltec Industries                                |
| KEL | Kelvin Hughes Ltd.                               |
| KEN | Kennedy Co.                                      |
| KED | Kenwood  |
| KEY | Key Systems Inc.                                 |
| KIL | Kilgore Corp.                                    |
| KIM | Kimball Products Co.                             |
| KIN | King Radio Corp.                                 |
| KIG | Kingfisher                                       |
| KIS | Kings Electronics Co.                            |
| KIE | Kinn Electronics Corp.                           |
| KLM | KLM Communications                               |
| KNI | Knight Electronics Corp.                         |
| KKC | Kobe Kogyo Corp.                                 |
| KOK | Kokusai Electric Co.                             |
| KOL | Kollsman Instrument Corp.                        |
| KOV | Kongsberg Vapenfabrikk                           |
| KOE | Konigsberg Electronics Inc.                      |
| KOR | KOR Electronics Inc.                             |
| KRD | Korad Corp.                                      |
| KRA | Kraft Systems                                    |
| KRE | Kreco Co.  |
| KRI | Kris Inc.  |
| KUB | Kubota Kisho Shokki Co.                          |
| KUX | Kustom Electronics Inc.                          |
| KUS | Kustom Signal Corp.                              |
| KYD | Kyokuto Denshi                                   |
| KDC | Kyoritsu Dempa Co.                               |
|     |  |
| LGD | L'Garde  |
| LAB | La Barge, Inc.                                   |
| LFE | Laboratory for Electronics Inc.                  |
| LAF | Lafayette Radio or Lafayette Radio & Electronics |
| LAM | LaFayette Micro                                  |
| LAG | LAG Engineering                                  |
| LUG | Laguna Industries                                |
| LPE | Lambda Pacific Engineering                       |
| LMB | Lamda RF Systems                                 |
| LAN | Lance Antenna Corp.                              |
| LAP | Lapointe Industries Inc.                         |
| LAR | Largo Electronic Manufacturers Inc.              |
| LAS | Larson Electronics                               |
| LLC | Laset Link Corp.                                 |
| LAT | Latus D.N. & Co.                                 |
| LAV | Lavoie Laboratories Inc.                         |
| LEA | Lear Inc.  |
| LSB | Lear Siegler/Bogen                               |
| LCM | Lecom Inc.                                       |

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| LET | Lectrosonics, Inc.  |
| LEI | Leigh Instruments Ltd. or Leigh Systems   |
| LEG | Leigle Instruments Ltd.   |
| LEN | Lenkurt Electric Co.  |
| LEE | Lenkurt Electric Company of Canada Ltd.   |
| LFC | LFE Electronics Corp.   |
| LIB | Librascope  |
| LIG | Lightcraft Avionics   |
| LIL | Lincoln Laboratory  |
| LSI | Linear Systems Inc.   |
| LIN | Ling Systems Inc.   |
| LTV | Ling Temco Vaught Inc.  |
| LCO | Link Communications   |
| LIR | Linkradio or Litton Educational Technical Div. or Gonset Division of Layco Inc. |
| LII | Litton Industries   |
| LIT | Litton Systems Ltd.   |
| LIV | Livermore Data Systems  |
| LLL | Livermore Lab   |
| LNR | LNR Communications Inc.   |
| LOC | Lockheed Electronics  |
| LOS | Lockheed Sanders Inc.   |
| LOG | Logimetrics Inc.  |
| LEC | Lorain Electronics Corp.  |
| LDS | Loral Data Systems  |
| LOE | Loral Electronics Corp.   |
| LRE | Lorenz  |
| LOR | Lorrain County Radio Corp.  |
| LOA | Los Alamos National Laboratories  |
| LAA | Los Alamos Technical Associates Inc.  |
| LOK | Lotek   |
| LOT | Lotran Inc.   |
| LPB | Low Power Broadcast Co.   |
| LTS | LTV Aerospace Defense Co. (Sierra Research Division)                            |
| LED | Lucas Lebox   |
| LUC | Lucos Air Space   |
| LUE | Lunar   |
| LXE | LXE Incorporated  |
| LYN | Lynch Communications Systems Inc.   |
|     |   |
| MVI | M/A-COM Video Systems Inc.  |
| MAB | M/A Comm AC Inc.  |
| MAM | M/A COMM MAC  |
| MZE | M Z Enterprises   |
| MNP | Machinostroenie N.P.O.  |
| MKY | Mackay Radio-Telegraph Co.  |
| MAF | MAFCO   |
| MGC | Magellan Corporation  |
| MAG | Magnavox Co.  |
| MGN | Magnetic AB (Sweden)  |
| MAI | MAICO Hearing Instruments or Mattel, Inc.                                       |
| MAJ | Majestic Radio-Television Co.   |
| MOB | Mal Mobley  |
| MLA | Malabs  |

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| MBR | Malibu Research                                      |
| MAN | Manson Laboratories Inc.                             |
| MBE | Marcel Bassaulet Electronics                         |
| MCJ | Marconi Electronics                                  |
| MAC | Marconi Instruments, Division of English Electronics |
| MIM | Marconi International Marine Co.                     |
| MCI | Marconi Radio  |
| MSD | Marconi Space and Defense Systems                    |
| MWT | Marconi Wireless Telegraph Co. Ltd.                  |
| MAL | Marelli Lenkurt Electric                             |
| MAY | Marine Technical Division of Dayton Aircraft         |
| MAE | Marine-Air Systems, Ltd.                             |
| MRN | Mariner  |
| MTX | Marintek   |
| MAK | Mark IV Industries, Limited                          |
| MAR | Mark Products Co.                                    |
| MAH | Martch Co.   |
| MTH | Martech, Inc.  |
| MRR | Marti  |
| MRT | Marti Electronics                                    |
| MMA | Martin Marietta Air Space                            |
| MEL | Maryland Electronics Corp.                           |
| MSA | Massa Products                                       |
| MMM | Master Mobile Mounts Inc.                            |
| MAT | Matsushita Electric Corp.                            |
| MXP | Max Planck Institute                                 |
| MAA | Maxar  |
| MXN | Maxon Electronics, Inc.                              |
| MXI | MAXRAD, Inc.   |
| MAX | Maxson Electronics Corp. (Electronics Design)        |
| MXL | Maxwell Electronic Corp.                             |
| MBA | MB Associates  |
| MCD | McDonnell Aircraft Corp.                             |
| MDD | McDonnell-Douglas Corp.                              |
| MCM | McMartin Industries Inc.                             |
| MDI | MDM, Inc.  |
| MDT | MDTT Inc.  |
| MEC | Mechanical Product Inc.                              |
| MGI | Megapulse Inc.                                       |
| MGS | MEGASTAR   |
| MEI | Meisei Denki Co.                                     |
| MPR | Melpar Inc.  |
| MEN | Mentor Radio Co.                                     |
| MBC | Meteor Communications Consultants, Inc.              |
| MTR | Meteor, Communications Corp.                         |
| MSY | Meteric Systems Corp.                                |
| MEE | Metric Engineering                                   |
| MDS | Metrodata Systems                                    |
| MER | Metron Instrument Co.                                |
| MET | Metrotek Electronics Co.                             |
| MCA | Micro-Avionics                                       |
| MCO | Micro Communications Co.                             |
| MCT | Micro Control Specialities                           |

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| MCE | Micro Electronics                           |
| MEJ | Micro Electronics Inc.                      |
| MCF | Micro Flect                                 |
| MIL | Micro-Linke Corp.                           |
| MTB | Micro-Now Instruments Co., Inc.             |
| MRI | Micro Radionics Inc.                        |
| MRS | Micro Systems Inc.                          |
| MTC | Micro-Tel Corp.                             |
| MCC | Microcom Corp.                              |
| MIC | Microdot Inc.                               |
| MDC | Microdyne Corp.                             |
| MID | Microfix Instruments Limited                |
| MLF | Microlab/FXR, Inc.                          |
| MIF | Micromega, Divn of Bunker-Ramo Corp.        |
| MCS | Micronetics                                 |
| MIV | Microvision                                 |
| MWA | Microwave Antenna Designs Inc.              |
| MIW | Microwave Associates Inc.                   |
| MWB | Microwave Bypass Systems                    |
| MCL | Microwave Cavity Laboratory                 |
| MWC | Microwave Control Co.                       |
| MDY | Microwave Data System                       |
| MDM | Microwave Design Manufacturing Inc.         |
| MWD | Microwave Devices Inc.                      |
| MNI | Microwave Network Inc.                      |
| MPD | Microwave Power Devices, Inc.               |
| MWI | Microwave Power, Inc.                       |
| MPI | Microwave Products Inc.                     |
| MWO | Microwave Radio Corp.                       |
| MRW | Microwave Resources Inc.                    |
| MSC | Microwave Service Co.                       |
| MSP | Microwave Speciality Corp.                  |
| MAS | Mid American Relay Systems                  |
| MSR | Mid State Radio                             |
| MIN | Midland Intr. Corp.                         |
| MAD | Midwest Audio Corp. or Madigan Corp.        |
| MRC | Midwest Radio Corp.                         |
| MBI | MIL 3, Inc.                                 |
| MTP | Military Technology PTY, Ltd.               |
| MRA | Miller RA                                   |
| MFT | Milliflect, Inc.                            |
| MMT | Millimeter Wave Technology                  |
| MXR | Min X Radio                                 |
| MIT | Minatronics Corp.                           |
| MHR | Minneapolis Honeywell Regulator             |
| MIR | Mirage Systems                              |
| MIA | Missawa                                     |
| MIS | Mission Engineering Corp.                   |
| MCH | Mitchell Camera Corp.                       |
| MIZ | Mitchell Industries Inc.                    |
| MIE | Mitre Corp.                                 |
| MRX | Mitrex                                      |
| MIB | Mitsubishi Denki Co. or Mitsubishi Electric |

|     |   |
|-----|---|
| MOX | Mobile Communications                     |
| MMR | Mobile Marine Radio                       |
| MTI | Mobile Telesystem Inc.                    |
| MTS | Mobile Telesystems                        |
| MOL | Mobilet Corp.                             |
| MOD | Modar Electronics                         |
| MME | Model Engineering and Manufacturing Corp. |
| MOC | Model Rectifier Co.                       |
| MOE | Monaco Enterprises Inc.                   |
| MRE | Monicor Electronics                       |
| MON | Monitor Electronics                       |
| MTN | Monitron Corp.                            |
| MOY | Monsant Co.                               |
| MNT | Montec (Divn of E-Systems)                |
| MGW | Montgomery Ward                           |
| MNC | Montronics Inc.                           |
| MOO | Moog Industrial Control Corp.             |
| MOR | Morad Electronics Corp.                   |
| MFX | Morfax, Ltd                               |
| MRM | Morrow Radio Manufacturing Co.            |
| MOA | Moseley Associates Inc.                   |
| MOF | Moseley Associates Inc.                   |
| MOS | Moseley Electronics Co.                   |
| MOT | Motorola Corp.                            |
| MPH | MPH Industries, Inc.                      |
| MUL | Multi Elmac Co.                           |
| MPC | Multi-Products Co.                        |
| MUP | Multiplex Services Corp.                  |
| MPN | Multipoint Network                        |
| MUS | Multitech Power Systems/Avionics          |
| MUT | Multitone Electronics Ltd.                |
| MUI | Multronics Inc.                           |
| MUN | Muniquip Co.                              |
| MEM | Munston Electronic Manufacturing Co.      |
| MUX | Munston Electronics Manufacturing Corp.   |
| MUZ | Munston Manufacturing & Service Inc.      |
| MUE | Murphy Electronics Division of Rank Corp. |
|     |   |
| NYT | N.Y. Technical Institute of Cincinnati    |
| NSI | Nady System, Inc.                         |
| NAL | NALCO                                     |
| NAN | Nanayo Electric Co.                       |
| NAK | Nankai Musen Co.                          |
| NPC | NAPCO Industries                          |
| NRB | NARCO                                     |
| NAR | Narda Microwave Corp.                     |
| NRC | National Aeronautic Corp.                 |
| NCR | National Cash Register of Canada          |
| NCF | National Center for Atmospheric Research  |
| NAC | National Co.                              |
| NEL | National Electronics Laboratory           |
| NAU | Nautel                                    |
| NAD | Naval Air Dev. Ctr.                       |

|     |   |
|-----|---|
| NAW | Naval Air Warfare Ctr. Weapons Div.                 |
| NAM | Naval Ammo Depot                                    |
| NAV | Naval Avionics                                      |
| NVE | Naval Engineering Center                            |
| NOS | Naval Oceans System Center                          |
| NOT | Naval Ordnance Test Center, China Lake              |
| NUS | Naval Underwater Systems Center                     |
| NWC | Naval Weapons Center                                |
| NVC | Navcom Defense Electronics                          |
| NEA | NEC America Inc.                                    |
| NEC | Nemsclarke  |
| NEU | Neulink, Divn of Celltronics                        |
| NEB | NEUTEC  |
| NAP | Nevada Air Products Co.                             |
| NMT | New Mexico Tech                                     |
| NMU | New Mexico University                               |
| NTD | New Tronics Division                                |
| NEW | Newton Co.  |
| NET | Newtronics, Inc.                                    |
| NEI | Nielson Electronics Division                        |
| NDC | Nihon Denki Co.                                     |
| NIM | Nihon Musen Co.                                     |
| NIE | Nippon Electronic Company Ltd.                      |
| NIS | Nissin Electronics Inc.                             |
| NIT | NITECH, Inc.  |
| NRD | Norand Data Sys                                     |
| NDS | Norand Data Systems, Inc.                           |
| NOD | Norden Division                                     |
| NAH | North American Philips                              |
| NOR | Northeast Medal Industries                          |
| NOE | Northeastern Engineering Co.                        |
| NRE | Northern Electric Co. Ltd.                          |
| NRA | Northern Radio Co. or Northern Electronic Co.       |
| NSL | Northern Scientific Laboratory                      |
| NTL | Northern Telecommunications Inc.                    |
| NOC | Northrop Corporation                                |
| NSA | Northstar Electronics Inc.                          |
| NST | Northstar Technologies                              |
| NIC | Northwest Instrument Co.                            |
| NOV | Nova-Tech/Avionics or Nova Tech Inc.                |
| NOK | Novak Electronics                                   |
| NUR | Nurad Inc.  |
|     |   |
| OAQ | OAQ Corporation                                     |
| OAR | Ocean Applied Research Corp.                        |
| OCT | Octagon   |
| OPD | Odetics Precision Time Division                     |
| OOS | Odom Offshore Survey                                |
| ODM | ODOM  |
| OKI | OKI Denki Co. or OKI Electric Industry Company Ltd. |
| OAI | Oklahoma Aerotronics, Inc.                          |
| OKA | Oklahoma Electronics Co.                            |
| OSU | Oklahoma State University                           |

|     |   |
|-----|---|
| OLS | Olson Radio Corp.   |
| OME | Omera (France)  |
| OMN | Omnitek   |
| OPS | Opos Electronics  |
| OPE | Opseis  |
| OPT | Optic Electronic Corp.  |
| OPM | Opto-Mechnik  |
| ORB | Orbit Electronics   |
| OSC | Orbital Sciences Corp.  |
| OSB | Oregon State Board of Forestry  |
| OSH | Oregon State Highway Dept.  |
| ORE | Oremco  |
| OEC | Osborne Electronics Corp.   |
| OUT | Ourercom Electronics Corp.  |
| OTR | Outer Communication Co.   |
| OZD | Ozalid Division   |
|     |   |
| PGE | P.G. Electronics  |
| PIC | P-I-C Communications Inc.   |
| PCC | Pace Communications Corp.   |
| PAD | Pacific Advanced Engineering Inc.   |
| PAI | Pacific Aerosystem, Inc.  |
| PCM | Pacific Communications  |
| PCR | Pacific Crest Corporation   |
| PEI | Pacific Engineering, Inc.   |
| PMR | Pacific Missile Range Co.   |
| PMT | Pacific Missile Test Center   |
| PNL | Pacific Northwest Lab   |
| PWI | Pacific World Industries  |
| PAK | Packard Bell Electronics Corp.  |
| PCE | Page Communications Engineers Inc.  |
| PAL | Palmer, B. Co.  |
| PAA | Pan American Airways  |
| PAN | Panronics Corp.   |
| PSC | Paramax Systems Corp.   |
| PRS | Parisi Antennas   |
| PAE | Park Aire Electronics   |
| PAR | Parsons Electronics   |
| PRN | Parsons, Ralph M. Co.   |
| PAZ | Parzen Research Inc.  |
| PAT | Patterson H. J.   |
| PMC | Patterson Manufacturing Company Inc.                                      |
| PAU | Pauldon   |
| PAV | PAVCO   |
| PCL | PC Electronics  |
| PEA | Pearce Simpson Inc.   |
| PEG | Penninsula Engineering Corp.  |
| PER | Perkin Elmer Inc.   |
| PHD | Phelps Dodge  |
| PHI | Philco Corp.  |
| PHC | Philco Corporation of Canada Ltd.   |
| PHL | Philips Gloeilampene Abreiken (Neth) or Philips Broadcast Equipment Corp. |
| PLP | Phillips Audio Visual Corp.   |

|     |  |
|-----|--|
| PHM | Philmore Manufacturing Co.                         |
| PSL | Physical Science Lab                               |
| PIS | Picattiny Arsenal                                  |
| PBI | Pickard-Burns Inc.                                 |
| PIE | Piezo Ltd.   |
| PIA | Pinson Associates Inc.                             |
| PAC | Piper Aircraft Corp. (Electronics Division)        |
| PLC | Plectron Corp.                                     |
| PLE | Plessey Company Ltd. (UK)                          |
| PNH | PNH Electronics Co.                                |
| POE | Pointer Electronics                                |
| PRL | Polar Research Lab.                                |
| POL | Polarad Electronics Corp.                          |
| PLR | Polestar   |
| PTA | Polytechnica                                       |
| POX | Polytronics Communications or Pro-Line Electronics |
| POY | Polytronics Laboratories Inc.                      |
| PRI | Polytronics Research Inc.                          |
| POM | Pomije Electronics Co. or Palomar Instrument Co.   |
| POC | Port-Com   |
| POV | Port-O-Vox Corp.                                   |
| PST | Power Systems Technology Inc.                      |
| PED | Practical Engineering & Development Corp.          |
| PRE | Premax Products Division                           |
| PRT | Pritchard Brown                                    |
| PBR | Pro Brand International                            |
| PCO | Procom   |
| PRO | Prodelin Inc.                                      |
| PFE | Professional Electronics                           |
| PCS | Proportional Control Systems                       |
| PTI | Protection Technology Inc.                         |
| PRX | Proxim   |
| PSI | Public Systems Inc.                                |
| PUL | Pulse Engineering Inc.                             |
| PYC | Pye Communications                                 |
| PYA | Pye Corporation of America                         |
| PYE | Pyle Telecommunications Ltd. (UK)                  |
|     |  |
| QUC | QALCOMM  |
| QEI | QEI Corporation                                    |
| QEN | Quadrant Engineering Inc.                          |
| QUT | QUALI-TRON   |
| QUA | Qualimetrics Corp.                                 |
| QSC | Quanta System Corp.                                |
| QUE | QUE Enterprises Inc.                               |
| QEL | Quest Electronics                                  |
| QUI | Quintron Corp.                                     |
|     |  |
| MLR | R. A. Miller Industries                            |
| RFT | R. F. Technology                                   |
| RJG | R. J. Gumm Co.                                     |
| RAF | R&D Assoc. Electronics Navigation Industries Inc.  |
| RAC | Racal Communication Inc.                           |



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| RMI | Racal Decca Marine Inc.                                  |
| RAE | Racal Electronics Ltd.                                   |
| RAI | Racal Instruments Ltd.                                   |
| RCN | Racon, Inc.  |
| RQM | Racon Inc. Quality Microwave                             |
| RAA | Rad-O-Lite   |
| RDA | Radair Inc.  |
| RAG | Radian Corp.   |
| RAD | Radiation Inc.   |
| RCE | Radio Communications Equipment Engineering Ltd. (Canada) |
| RCA | Radio Corporation of America                             |
| REL | Radio Electronics Laboratories                           |
| REN | Radio Engineering Laboratories                           |
| RFI | Radio Frequency Communications, Inc.                     |
| RHU | Radio Holland Group                                      |
| RII | Radio Industries Inc.                                    |
| RDM | Radio Marine Corp.                                       |
| RAP | Radio Plane Co.  |
| RRC | Radio Receptor Co.                                       |
| RRI | Radio Research Instrument Co.                            |
| RAS | Radio Shack  |
| RDB | Radio Specialists Co.                                    |
| ROM | Radio Specialties Mfg. Co.                               |
| RDS | Radio Specialty Co.                                      |
| RSM | Radio Specialty Manufacturing                            |
| RSI | Radio Systems, Inc.                                      |
| RNS | Radionics  |
| RFE | Rafael   |
| RYC | Railway Communication Inc.                               |
| RTN | Randtron Systems   |
| RGC | Ranger Communications                                    |
| RAN | Rantec Corp.   |
| RAT | Ratelco Inc.   |
| RAU | Raulond-Borge Corp.                                      |
| RAJ | Ray Jefferson Co.  |
| RDN | Raydyne Inc.   |
| JRD | RAYJ   |
| RAY | Raytheon Co. or Raytheon Manufacturing Co.               |
| RCM | RC Manufacturing Co.                                     |
| RCV | RCA Victor Company Ltd.                                  |
| REC | Reach Electronics Corp.                                  |
| RIA | Reaction Institute Inc.                                  |
| REE | Reaction Instruments Inc.                                |
| RLC | Realistic Co.  |
| REA | Realtons Electronics Inc.                                |
| ROC | Recon Optical Inc.                                       |
| RED | Redifon Ltd.   |
| REV | Reeves Instrument Corp.                                  |
| RTK | REFTEK   |
| REI | Regency Electronics Inc.                                 |
| RIZ | Rel Inc.   |
| REZ | Relco  |
| REB | Remcon   |

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|-----|---|
| REM | Remler Company Ltd.                       |
| RMT | Remotec, Inc.                             |
| REO | Remtron                                   |
| REP | Repco Inc. or R.G.P. Co.                  |
| REF | Republic Electronics Films Inc.           |
| RSL | Resalab, Inc.                             |
| RES | Resdel Engineering Corp.                  |
| RET | Resonant Electronics                      |
| REX | Rex Bassett Inc.                          |
| RFC | RF Communications Associates Inc.         |
| RFH | RF Harris Electronics                     |
| RAB | RF Sound Inc.                             |
| RHG | RHG Electronics Laboratories              |
| RRH | Richard R. Hayes                          |
| RCI | Richmond Communications Inc.              |
| REU | Ridge Electronics Corp.                   |
| RIT | Ritcon Inc.                               |
| RTR | Ritron, Inc.                              |
| JAR | Robert A. Jones                           |
| DRC | Robert Dollar Co.                         |
| RST | Robertson-Shipmate                        |
| ROB | Robinson Electronics                      |
| ROE | Robinson Engineering Co.                  |
| RWC | Rockwell, Collins                         |
| RIE | Rockwell International Electronics        |
| ROD | Rodelco                                   |
| ROS | Rohde Schwarz                             |
| RDC | Rome Air Development Center               |
| REG | Ross Engineering                          |
| ROT | Rothenbuhler Engineering                  |
| ROW | Rowe Industries                           |
| ROX | Roxy Ofuna Electronics                    |
| ROY | Royal Electronics Corp.                   |
| ROL | Royal Exec                                |
| RSE | RS Electronics Corp.                      |
| RSS | RS Systems Inc.                           |
| RUS | Rust Corp of America                      |
| RYA | Ryan Aeronautical Co.                     |
| RYU | Ryukyu Tsushinki Kogyo Co.                |
|     |   |
| RCP | S&O RC Products                           |
| SAP | SA Philips Pty. Ltd.                      |
| SAB | SAAB                                      |
| SAC | Sabre Communications Corp.                |
| SDI | Safety Devices Inc.                       |
| SAG | Sage Laboratories                         |
| SAL | Salco Manufacturing Co.                   |
| SAM | Sampson Co.                               |
| SMT | Samson Technologies Corp.                 |
| SEE | San Endiron General                       |
| SAN | Sanders Associates Inc.                   |
| SAD | Sandia Corp.                              |
| STJ | Sanford Telecommunications Institute Inc. |

|     |   |
|-----|---|
| SBR | Santa Barbara Research Ctr.                         |
| SNT | Santec  |
| SAT | Sarkes Tarzian Inc.                                 |
| SNF | Sarnoff David Research Center                       |
| SLT | Satellite Transmission Systems, Inc.                |
| SCA | Scala Radio Corp.                                   |
| SLI | Scanwell Laboratories Inc.                          |
| SCH | Schuttig Atlantic                                   |
| SCT | Science Applications International Technology, Inc. |
| SCI | Scientific Atlanta Co.                              |
| SCN | Scientific Communications                           |
| SRS | Scientific Radio Systems Inc.                       |
| SCX | Scintrex Ltd.                                       |
| SCM | SCM Melabs Inc.                                     |
| SCO | Scope Inc.  |
| SRL | Scott EH Radio Laboratories Inc.                    |
| SNI | Sea Marine International                            |
| SBE | Seaboard Electronics                                |
| SEP | Seaphone Inc.                                       |
| SEA | Sears Roebuck Co.                                   |
| SEM | Seatron Inc.  |
| SCC | Secode Corp.  |
| SEK | Seiki Electronics Inc.                              |
| SEI | Seiscor Manufacturing Co.                           |
| SES | Seismograph Service Corp.                           |
| SEL | Selenia S.P.A. (Italy)                              |
| SEO | SEMCO   |
| SEN | Sennheiser Electronic Corp.                         |
| SNE | Senses International                                |
| SSR | Sensor Systems                                      |
| SNS | Senstar Corp.                                       |
| SNL | Sentinel  |
| SEX | Sentrax Perimeter Protection System                 |
| SIS | Sercel Industries Corp.                             |
| SDX | Serdex Corp.  |
| SRV | Serv-Air, Inc.                                      |
| STP | Serve-Tek Products Inc.                             |
| SER | Servo Corp. of America                              |
| SET | Setchell Carlson Inc.                               |
| SAQ | Sexant Anionique                                    |
| SHD | Shadow Technology                                   |
| SHA | Shakespeare   |
| SHK | Shank Communication Co.                             |
| SHP | Shart Corp.   |
| SLL | Shell Development Co.                               |
| SHI | Shiba Electric Co.                                  |
| SHU | Shure Brothers Inc.                                 |
| STX | SI-Tex Marine Electronics, Inc.                     |
| SBA | Sideband Associates Inc.                            |
| SBT | Sideband Technology, Inc.                           |
| SIH | Siemens-Halske                                      |
| SIE | Sierra Electronic Division of Philco                |
| SMO | Sierra Misco  |

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| SRM | Sierra Monolithics Inc.                    |
| SNC | Sierra Nevada Corp.                        |
| SRC | Sierra Research Corp.                      |
| SAS | Sigmas Antenna                             |
| SIG | Signal Communications                      |
| SPP | Simmonds Precision Products, Inc.          |
| SIM | Simpson Electronics                        |
| SLR | Sinclair Radio Laboratories                |
| STH | Sintra-Thomson                             |
| SIP | Sippian Ocean Systems                      |
| SIT | SITCO                                      |
| SIR | Sitra                                      |
| SKN | Skanti                                     |
| SKM | Skipper Marine Electronic                  |
| SKY | Skycrafters Inc.                           |
| SKD | Skydata, Inc.                              |
| SKX | Skyphone Division                          |
| SRI | Skyway Radio Inc.                          |
| SME | Smithroot Electronics                      |
| SMI | Smiths Industries Inc.                     |
| SRA | Smythe Research Associates                 |
| SOL | Soladyne International Inc.                |
| SEG | Solartron Electronics Group Ltd.           |
| SOI | Solid State Technology                     |
| SON | Sonar Radio Corp.                          |
| SOE | Sonex Inc.                                 |
| SOY | Sony                                       |
| SOU | Sound-Craft Systems Inc.                   |
| SMD | South Midlands Communications Ltd.         |
| SOZ | Southcom International Inc.                |
| SOA | Southern Avionics                          |
| SMW | Southern California Microwave              |
| SMC | Southern Marine Corporation                |
| SMR | Southern Marine Research, Inc.             |
| SWM | Southwest Microwave Co., Inc.              |
| SWR | Southwest Research Institute               |
| SWN | Southwestern                               |
| SAV | Space Avionics Inc.                        |
| SDC | Space Data Corp.                           |
| SPE | Space Electronics                          |
| SPG | Space General                              |
| SML | Space Microwave Lab.                       |
| SOS | Space Ordinance Systems                    |
| SPC | Space Technical Laboratories               |
| SPA | Spar Aerospace Ltd.                        |
| SPT | Sparta Electronic Corp.                    |
| SPN | Sparton Electronics                        |
| SPF | SPC Technology, Divn. of Remier Industries |
| SPQ | Spears Associates                          |
| SPI | Specific Products Inc.                     |
| SPX | Specifics Co.                              |
| SPS | Spectra-Physics                            |
| SPM | Spectra Physics Co.                        |

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| SPL | Spectrolab Inc.  |
| SIN | Spectrum Communications, Inc.  |
| SKL | Spencer Kennedy Laboratories   |
| SPD | Sperry Corp.   |
| SPR | Sperry Corp. or Servo Corporation of America                             |
| SRR | Sperry Flight Systems  |
| SGC | Sperry Gyroscope Company of Canada Ltd.                                  |
| SPY | Sperry Gyroscope Company Inc.  |
| SPZ | Sperry Marine Systems  |
| SPW | Sperry Piedmont Co.  |
| SIL | Spilsbury & Tindall  |
| SRE | Sprengnether Equipment Co.   |
| SAI | Springer Aircraft Radio Corp.  |
| SQA | Square D Co.   |
| SQU | Squires Sanders Inc.   |
| SRT | SR Telecom, Inc.   |
| STM | ST Microwave   |
| STV | ST Research Corp.  |
| STI | Stailes Inc. or Star Lifeline Ltd.                                       |
| STB | Standard Communications  |
| STS | Standard Electrica S.A.  |
| STD | Standard Elektrik Lorenz   |
| STA | Standard Electronics   |
| SRD | Standard Radio and Telefon ABITT   |
| STC | Standard Telephones-Cables Ltd.  |
| STQ | Stanford Research Institute  |
| SFI | Stanford Telecommunications Inc.   |
| STF | Stanley Electronics Co.  |
| SSC | States Steamship Co.   |
| SCR | Steinbrecher Corporation   |
| SSY | Stellar System   |
| SIA | Stephens Engineering Associates, Inc.                                    |
| STE | Stephenson   |
| STL | Sterling Precision Corp.   |
| STW | Stewart Warner Corporation of Canada Ltd.                                |
| SAR | Stoddard Aircraft Radio Co.  |
| STN | Stoner Electronics   |
| STG | Stoner-Goral Communications Co.  |
| STO | Storno Radio Co.   |
| STU | Strand Engineering   |
| STR | Stromberg Carlson Products Co.   |
| SGE | Strong Electronics   |
| SEC | Struthers Electronics Corp.  |
| SUM | Summers & Mills  |
| SUC | Sun Chemical Corp.   |
| SUN | Sunair Electronics Inc.  |
| SSI | Surface System Inc.  |
| SUT | Sutron Co.   |
| SVR | Svenska Radio  |
| SWA | Swan Electronic Corp.  |
| SWI | Swintek Cordless Microphone Co.  |
| SYL | Sylvania Electronics Defense Laboratory or Sylvania Electronics Products |
| SMG | Symbol Technology, Inc.  |

|     |  |
|-----|--|
| SYM | Symetrics Engineering Corp.                  |
| SYX | Syndetix                                     |
| SYN | Synergetics                                  |
| SYA | Syracuse Research Corp.                      |
| SYC | Syscon Corporation                           |
| SPB | System Planning Co.                          |
| SYD | Systems Dynamics                             |
| SYE | Systems Engineering & Management Corporation |
| SYR | Systems Research Laboratories, Inc.          |
| SYS | Systron Donner Corp (Demornay Bonardi)       |
|     |  |
| TAO | Taco, Inc.                                   |
| TSI | Tactical Systems Inc.                        |
| TAD | TAD-American Corp.                           |
| TIS | Tadiran Israel Industries, Ltd.              |
| PTL | TADS Development Labs, Inc.                  |
| TAE | Tait Electronics, Ltd.                       |
| TAI | Taiyo Musen Co.                              |
| TAM | Tamer Electronics Inc.                       |
| TAS | Tasker or Tasker Industries                  |
| TBN | Tayburn                                      |
| TAY | Taylor Electrical Instrument Ltd.            |
| TCM | TCOM Industries, Inc.                        |
| TDS | TDS Electronics Company Ltd.                 |
| TEK | Te-Ka-De Co.                                 |
| TEE | Teaberry Electronics Corp.                   |
| TCD | Techdyn Systems Inc.                         |
| TAC | Technical Appliance Corp.                    |
| TAN | Technical Associates of New Orleans          |
| THL | Technical Electronics Co.                    |
| TMC | Technical Materiel Corp.                     |
| TRC | Technical Radio Corp.                        |
| TSE | Technical Science                            |
| TSA | Technical Systems Associates                 |
| TSD | Technical Systems Division                   |
| TES | Technisonic Industries                       |
| TAP | Technology Applications                      |
| TFC | Technology for Communications, International |
| THY | Technology Service Corp.                     |
| TCN | Technos International Corp.                  |
| TEA | Tek-Aid Inc.                                 |
| TKM | TEK Mark Company                             |
| TPI | TEK Products Inc.                            |
| TKL | Teklogix, Inc.                               |
| TCI | Tel Com Industries                           |
| TIE | Tel Instrument Electronics                   |
| TEG | Telautograph Corp.                           |
| TEB | Telco  |
| TED | Teldex                                       |
| TCC | Tele Comm Communications                     |
| TCE | Tele Communications Corp.                    |
| TDY | Tele-Dynamics                                |
| TEH | Telechrome                                   |

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| TDI | TeleDesign   |
| TII | Teledyne Industries, Inc.                                    |
| TDE | Teledyne Ryan Electronics                                    |
| TSC | Teledyne Systems Co.   |
| TDC | Teledyne T/M Co.   |
| TLF | Telefunken GmbH.   |
| TEM | Telemet Co.  |
| TSY | Telemetry Systems Inc.                                       |
| TLM | Telemobile Inc.  |
| TEO | Telemotive   |
| TLE | Telemus Electronics Systems Inc.                             |
| TEJ | Telephone Engineering Corp.                                  |
| TLP | Telephonic Corp.   |
| TTS | Telesciences Transmission System Inc.                        |
| TSS | Telesystems, Inc.  |
| TEN | Teletronix Engineering Co.                                   |
| TIA | Television Technology Corp.                                  |
| TTI | Television Transmission Inc.                                 |
| TLX | Telex Co.  |
| TIN | Telinstrument Co.  |
| TLK | Telkoor  |
| TLR | Telline Radio  |
| TFD | Telludift  |
| TLA | Telonica Corp.   |
| TNS | Telonics   |
| TEL | Telrex Laboratories  |
| TTX | Teltrol Corp.  |
| TDT | Teludisc Inc.  |
| TRO | Telurometer Corp.  |
| TEC | Telviso Electronics  |
| TXC | Telxon Corporation   |
| TCO | Temco Aerosystems  |
| TME | Temec Corp.  |
| TEQ | Tenna Corp.  |
| TEP | Tepco Corp.  |
| TER | Terra-Com  |
| TEI | Texas Instrument Inc.  |
| TXS | Texscan Instruments  |
| TEX | Textran Division   |
| TXA | Textron Defense Systems                                      |
| THI | Thiokol Chemical Corp.                                       |
| THO | Thomas Mold-Die Co.  |
| THC | Thomson CSF  |
| TOH | Thomson-Houston (France)                                     |
| THE | Thorn EMI Electronics, Inc.                                  |
| THN | Thorn Microwave Devices                                      |
| TAT | Thrane & Thrane  |
| TDL | Tidelands  |
| TFT | Time & Frequency Tech. Inc.                                  |
| TTN | Titan Severe Environment Systems                             |
| TML | TMC Ltd.   |
| TMD | TMC Systems & Power Corp. or Telemotive Division of Dynascan |
| TKA | Tokai Communication Corp.                                    |

|     |   |
|-----|---|
| TKS | Tokyo Keiki Co.                               |
| TOK | Tokyo Shibaura Electronics Co.                |
| TOM | Tomcor  |
| TOP | Topp Manufacturing Co.                        |
| TOS | Toshiba Co.                                   |
| TOA | Townsend Associates                           |
| TOY | Toycon  |
| TRI | Tracor Inc.                                   |
| TRD | Traid Corp.                                   |
| TRM | Tram/Diamond Corp.                            |
| TRN | Tran-Com                                      |
| TRS | Tran-Crypt                                    |
| TRT | Trans Texas                                   |
| TRB | Trans World Communications, Inc.              |
| TCT | Transcidtronic                                |
| TSB | Transcience                                   |
| TRA | Transco Products Inc.                         |
| TIL | Transcript International                      |
| TRQ | Transformation Techniques, Inc.               |
| TRE | Transmitter Equipment Manufacturing Co.       |
| TRZ | Travelers Information Services Inc.           |
| TRF | TRF Company                                   |
| TRP | Tri-Com Inc.                                  |
| TDA | Tridea Electric Corp.                         |
| TRL | Trilectic Co.                                 |
| TBL | Trimble Navigation                            |
| TKC | Trio-Kenwood Communications                   |
| TIV | Trivec-Avent                                  |
| TTK | Tron-Tek Inc.                                 |
| TLC | TRT Groupe                                    |
| TRU | Truetime                                      |
| TRW | TRW Electronics                               |
| TRY | Trylon Inc.                                   |
| TUL | Tull Aviation Corp.                           |
| TUR | Turner Aircraft Radio Inc.                    |
| TYC | Tycho-Tech                                    |
|     |   |
| UEC | U.S. Army Electronics Command                 |
| USM | U.S. Metal Products Co.                       |
| UNN | Unicom  |
| UDN | Uniden  |
| UNM | Unimetrics Inc.                               |
| UNS | Unisys Corp.                                  |
| UTE | Unitec  |
| UED | United Electro Dynamics Inc.                  |
| USL | United Scientific Laboratory                  |
| UNC | United States Navguide Corp.                  |
| UNT | United Telecontrol                            |
| UFI | Uniten/Force Inc.                             |
| UDE | Univ. of Denver                               |
| LCA | Univ. of Lowell Ctr. for Atmospheric Research |
| UNI | Univac Corp.                                  |
| UNA | Universal Navigation Corporation              |

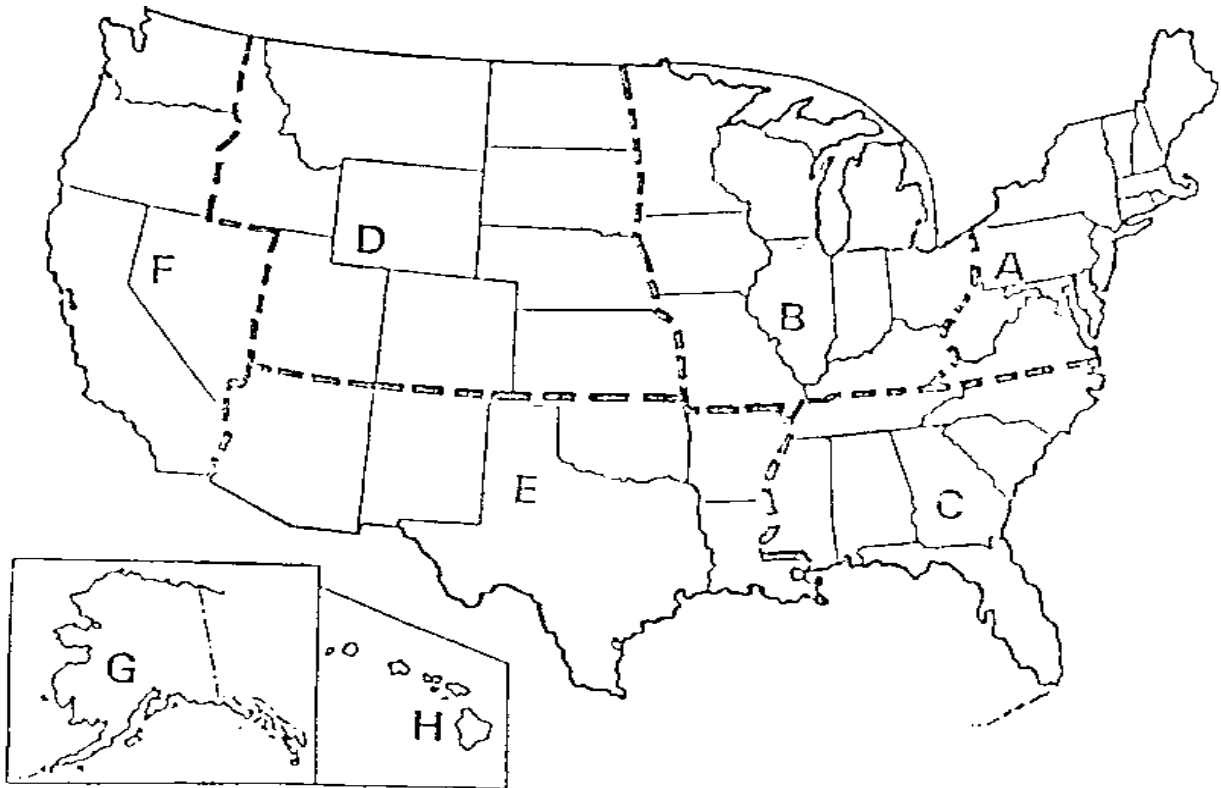


|     |                                     |
|-----|-------------------------------------|
| UIL | University of Illinois              |
| UMI | University of Miami                 |
| USE | Use Corporation                     |
| UAF | USN Avionics Facility               |
| UTI | Utica Communications                |
| UTL | UTL Corp.                           |
|     |                                     |
| VAI | Vaisala                             |
| VFR | Valley Forge Research Center        |
| VAN | Van Norman Industries Inc.          |
| VNG | Vanguard Med Products Co.           |
| VRD | Varda Company                       |
| VAR | Varian Associates                   |
| VRO | Varo, Inc.                          |
| VUA | Vector Division of United Aircraft  |
| VEC | Vector Manufacture Co.              |
| VTC | Vectran Corp.                       |
| VEG | Vega Electronics Corp.              |
| VSC | Ventanna Sciences Inc.              |
| VEN | Ventron Electronics Corp.           |
| VIF | Verifone, Inc.                      |
| VER | Versa-Count                         |
| VHF | VHF Engineering Co.                 |
| VSI | Viable Systems, Inc.                |
| VST | Viasat Technologies Co.             |
| VAT | Viatec                              |
| VIN | Vicon Industries, Inc.              |
| VIC | Victor RF-Microwave Co.             |
| VIA | Victoreen Instrument Co.            |
| VDC | Video Consultants                   |
| VMI | Video Methods, Inc.                 |
| VID | Vidor Scientific Inc.               |
| VIX | Vista Manufacturing Co.             |
| VEP | Visual Electronics Corp.            |
| VIS | Visual Manufacturing Division       |
| VIL | Vitel                               |
| VIT | Vitro Electronics                   |
| VIZ | VIZ Corp.                           |
| VOC | Vocaline Company of America         |
| VOU | Vought Corp.                        |
|     |                                     |
| WSD | W.S. Deans Co.                      |
| WAD | Waddell Dynamics                    |
| WAL | Walco Electronic Co.                |
| WGT | Wandel and Golterman                |
| WEI | Ward Electronic Industries          |
| WAA | Washington Aluminum Co.             |
| WAS | Washington State Patrol             |
| WAT | Washington Technological Assn., Inc |
| WJO | Watkins Johnson Co.                 |
| WAE | Waveband Electronics                |
| WAG | Waveguide                           |
| WAV | Wavetek                             |
| WVT | Wavetronics Inc.                    |
| WMC | Weather Measure Corp.               |
| WCI | Webcor Inc.                         |
| WGC | Webster Green Co.                   |
|     |                                     |
| WEB | Webster Manufacturing Co.           |
| WBL | Weibel Scientific Inc.              |
| WET | Weight-Tronics                      |

|     |  |
|-----|--|
| WEL | Well Sentry Inc.                             |
| WEM | Wems Inc.                                    |
| WMI | Wescom Microwave Inc.                        |
| WTB | West Bend                                    |
| WBA | West Bend Autotronics, Inc.                  |
| WEC | Western Electric Company Inc.                |
| WMX | Western Multiplex Corporation                |
| WRC | Western Radio Communications Corp.           |
| WSM | Western Space and Marine                     |
| WEU | Western Union Telegraph Co. or Western Union |
| WDC | Westin Data Comms                            |
| WAB | Westinghouse Air Brake Co.                   |
| WES | Westinghouse Electric Co.                    |
| WST | Westrex Corporation Division Litton Systems  |
| WHE | Whelen                                       |
| WHM | Whistler Marine Inc.                         |
| WHI | White J.L. Co.                               |
| WHT | Whittaker Corp.                              |
| WIC | Wicks Industries                             |
| WIH | Wightman Electronics Inc.                    |
| WIL | Wilcox Electric Corp.                        |
| WIG | Wilcox Gay Corp.                             |
| WMN | Wildlife Materials, Inc.                     |
| WIK | Wilkinson Electronics Inc.                   |
| WLC | Wilson Electronic Corp.                      |
| WIN | Wind Data                                    |
| WTC | Wind Turbine Co.                             |
| WED | Winston Electronics Division                 |
| WSI | Wireless Sound Inc.                          |
| WTI | Wireless Technology, Inc.                    |
| WOD | Wood and Douglas                             |
| WOO | Wood-IVY Systems, Inc.                       |
| WOR | Workshop Associates                          |
| WOE | World Engines                                |
| WRL | World Radio Laboratories                     |
| WOL | World Radio Ltd.                             |
| WUL | Wulfsberg Electronics                        |
| WYM | Wyman Research Inc.                          |
| WBI | Wyoming Biotelemetry Inc.                    |
|     |  |
| XRX | Xerox Corp., Electro Optical Systems         |
|     |  |
| YEA | YAESU  |
|     |  |
| ZEN | Zenith Radio Corp.                           |
| ZET | Zeta Laboratories                            |

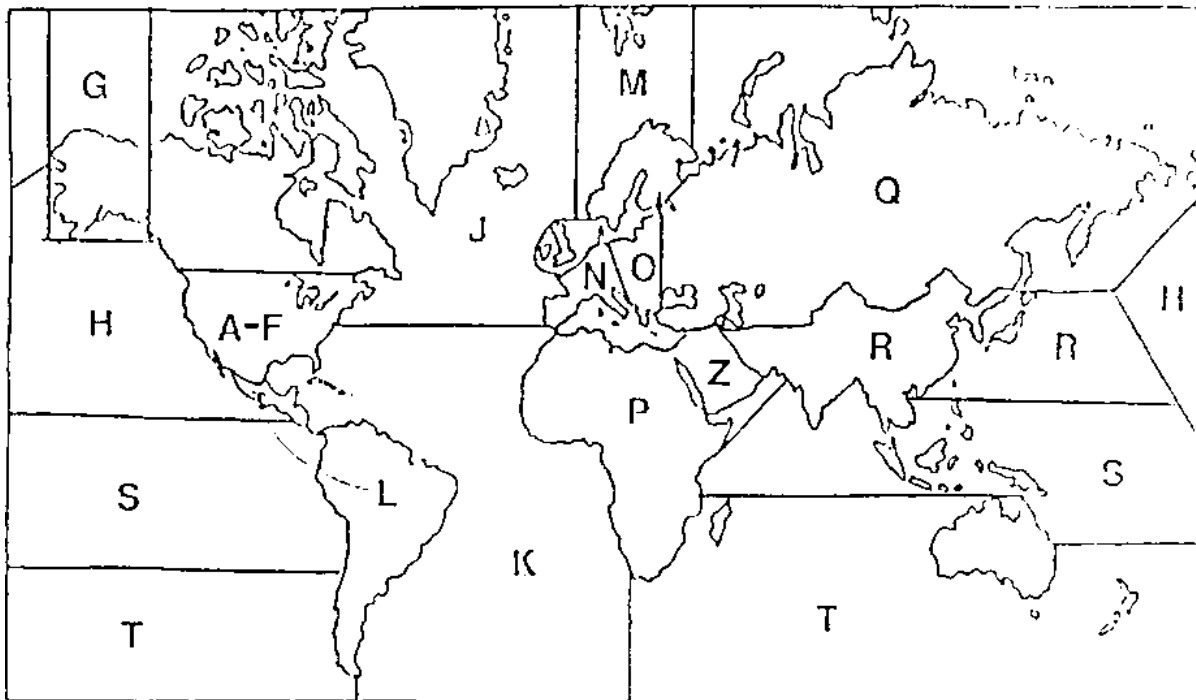
## ANNEX E - JSC MINOR AREA CODES

1. The following minor area codes are used in Data Items 373 and 473 to speed up certain selects for data outputs. This annex is organized to graphically display the minor area codes in figures 1 and 2. There are two listings sorted first by minor area code (subparagraph a) and secondly by state/country (subparagraph b).



CONUS 48 States/DC = Y

Figure A-E-1. JSC Area Codes (USA)



Note: Antarctica = L  
 Worldwide = U  
 Space = V  
 CONUS 48 states and DC = Y  
 Miscellaneous = X

Figure A-E-2 JSC Area Codes World

**This paragraph is sorted by the minor area code.**

|                      |   |                    |   |
|----------------------|---|--------------------|---|
| CHESAPEAKE BAY       | A | UTAH               | D |
| CONNECTICUT          | A | WYOMING            | D |
| DELAWARE             | A |                    |   |
| DISTRICT OF COLUMBIA | A | ARIZONA            | E |
| FIRST NAV DISTRICT   | A | ARKANSAS           | E |
| LAKE ONTARIO         | A | EIGHTH NAV DIST    | E |
| MAINE                | A | LOUISIANA          | E |
| MARYLAND             | A | NEW MEXICO         | E |
| MASSACHUSETTS        | A | OKLAHOMA           | E |
| NAV DIST WASH DC     | A | SW REGION CAP 6    | E |
| NEW YORK             | A | TEXAS              | E |
| NEW HAMSPHIRE        | A |                    |   |
| NEW JERSEY           | A | CALIFORNIA         | F |
| PENNSYLVANIA         | A | NEVADA             | F |
| RHODE ISLAND         | A | OREGON             | F |
| THIRD NAV DISTRICT   | A | PAC REGION CAP 8   | F |
| VERMONT              | A | WASHINGTON         | F |
| VIRGINIA             | A |                    |   |
| WEST VIRGINIA        | A | ALASKA             | G |
|                      |   | PACIFIC OCEAN NE   | G |
| GREAT LAKES          | B |                    |   |
| ILLINOIS             | B | ALASKA ALEUTIAN IS | H |
| INDIANA              | B | BERING SEA         | H |
| IOWA                 | B | FOURTEENTH NAV DIS | H |
| KENTUCKY             | B | HAWAII             | H |
| LAKE ERIE            | B | JOHNSTON ISLAND    | H |
| LAKE SUPERIOR        | B | MIDWAY ISLAND      | H |
| LAKE HURON           | B | PACIFIC OCEAN NW   | H |
| LAKE MICHIGAN        | B |                    |   |
| MICHIGAN             | B | ATLANTIC OCEAN NW  | J |
| MINNESOTA            | B | AZORES             | J |
| MISSOURI             | B | CANADA             | J |
| OHIO                 | B | FAEROES ISLANDES   | J |
| WISCONSIN            | B | GREENLAND          | J |
|                      |   | HUDSON BAY         | J |
| ALABAMA              | C | ICELAND            | J |
| FLORIDA              | C | JAN MAYEN          | J |
| GEORGIA              | C | S. PIERRE/MIQUELON | J |
| MISSISSIPPI          | C |                    |   |
| NORTH CAROLINA       | C | ANGUILLA           | K |
| SIXTH NAV DISTRICT   | C | ANTIGUA/BARBUDA    | K |
| SOUTH CAROLINA       | C | ARUBA              | K |
| TENNESSEE            | C | ASCENSION          | K |
|                      |   | ATLANTIC OCEAN WC  | K |
| COLORADO             | D | BAHAMAS            | K |
| IDAHO                | D | BARBADOS           | K |
| KANSAS               | D | BERMUDA            | K |
| MONTANA              | D | BRIT WEST INDIES   | K |
| NEBRASKA             | D | CANARIES           | K |
| NORTH DAKOTA         | D | CAPE VERDE ISLAND  | K |
| RCKY MTN RGN. CAP 7  | D | CARIBBEAN          | K |
| SOUTH DAKOTA         | D | CAYMAN ISLAND      | K |

|                     |   |                    |   |
|---------------------|---|--------------------|---|
| CUBA                | K | SW ATLANTIC OCEAN  | L |
| DOMINICA            | K | URUGUAY REPUBLIC   | L |
| DOMINICAN REPUBLIC  | K | VENEZUELA REPUBLIC | L |
| FALKLAND ISLANDS    | K |                    |   |
| FIFTEENTH NAV DIST  | K | BALTIC SEA         | M |
| GRENADA             | K | FINLAND            | M |
| GUADELOUPE F DEPT   | K | NORWAY             | M |
| GULF OF MEXICO      | K | NORWEGIAN SEA      | M |
| HAITI REPUBLIC      | K | SPITSBERGEN        | M |
| JAMAICA             | K | SWEDEN             | M |
| LESSER ANTILLES     | K |                    |   |
| MADEIRA             | K | AEGEAN SEA         | N |
| MARTINIQUE F DEPT   | K | ANDORRA            | N |
| MONTSERRAT          | K | ATLANTIC OCEAN NE  | N |
| NETHERLND ANTILLES  | K | AUSTRIA            | N |
| PANAMA CANAL ZONE   | K | BELGIUM            | N |
| PUERTO RICO         | K | BERLIN WEST        | N |
| S. TOME/PRINCIPE    | K | CORSICA            | N |
| S. HELENA           | K | CRETE              | N |
| SAINT LUCIA         | K | CYPRUS REPUBLIC    | N |
| ST CRISTOPH/NEVIS   | K | DENMARK            | N |
| ST VINCENT/GRENADIN | K | ENGLISH CHANNEL    | N |
| SWAN ISLAND         | K | EUROPE             | N |
| TENTH NAV DISTRICT  | K | FRANCE             | N |
| TRINIDAD/TOBAGO     | K | GERMAN DEM REP     | N |
| TRISTAN DA CUNHA    | K | GERMANY            | N |
| TURKS/CAICOS IS.    | K | GIBRALTAR          | N |
| VIRGIN IS BR. (ITU) | K | GREECE             | N |
| VIRGIN IS US (ITU)  | K | IRELAND            | N |
| VIRGIN ISLANDS      | K | ITALY              | N |
|                     |   | LIECHTENSTEIN      | N |
| ANTARTICA           | L | LUXEMBOURG         | N |
| ARGENTINE REPUBLIC  | L | MALTA              | N |
| BOLIVA              | L | MEDITERRANEAN SEA  | N |
| BRAZIL              | L | MEDITERRANEAN-EAST | N |
| CENTRAL AMERICA     | L | MEDITERRANEAN-WEST | N |
| CHILE (EX EASTER I) | L | MONACO             | N |
| COLUMBIA REPUBLIC   | L | NATO EUROPE ALL    | N |
| COSTA RICA          | L | NETHERLANDS KINGDM | N |
| ECUADOR             | L | NORTH SEA          | N |
| EL SALVADOR REP.    | L | PORTUGAL           | N |
| GUATEMALA           | L | SARDINIA           | N |
| GUYANA              | L |                    |   |
| GUYANA (FRENCH)     | L | SICILY             | N |
| HONDORAS REPUBLIC   | L | SPAIN              | N |
|                     |   | SWITZERLAND CONFED | N |
| LATIN AMERICA       | L | TURKEY             | N |
| MEXICO              | L | UK GREAT BRITAIN   | N |
| NICARAGUA           | L | VATICAN CITY STATE | N |
| PACIFIC OCEAN SE    | L |                    |   |
| PANAMA REPUBLIC     | L | ALBANIA REPUBLIC   | O |
| PARAGUAY            | L | BULGARIA PEO REPUB | O |
| PERU                | L | CZECHOSLOVAKIA     | O |
| SOUTH AMERICA       | L | HUNGARIAN REPUBLIC | O |
| SURINAM REP OF      | L | POLAND PEO REPUBLI | O |

|                       |   |                      |   |
|-----------------------|---|----------------------|---|
| ROUMANIA SOCLT REP    | O | UN TRUCE SUPER JER   | P |
| YOGOSLAVIA            | O | ZAIRE                | P |
|                       |   | ZAIRE                | P |
| AFRICA                | P | ZAMBIA REPUBLIC      | P |
| ALGERIA               | P | ZIMBABWE (REP. OF)   | P |
| ANGOLA                | P |                      |   |
| ATLANTIC OCEAN SE     | P | BYELORUSSIAN SSR     | Q |
| BENIN                 | P | MONGOLIAN REPUBLIC   | Q |
| BHUTAN (ITU)          | P | UKRAINIAN SSR        | Q |
| BOTSWANA              | P | USSR                 | Q |
| BURKINA FASO          | P |                      |   |
| BURUNDI KINGDOM       | P | CHINA                | R |
| CAMEROON REPUBLIC     | P | HONG KONG            | R |
| CENTRL AFRICAN REP    | P | JAPAN                | R |
| CHAD                  | P | KOREA (PEOPLES REP.) | R |
| CONGO PEO REPUBLIC    | P | KOREA REPUBLIC       | R |
| EQUATORIAL GUINEA     | P | MACAO                | R |
| GABON REPUBLIC        | P |                      |   |
| GAMBIA (BATHURST)     | P | SOUTH CHINA SEA      | R |
| GHANA                 | P | AMERICAN SAMOA       | S |
| GUINEA REPUBLIC       | P | ASIA SOUTH           | S |
| GUINES-BISSAU         | P | ASIA SOUTHEAST       | S |
| ISRAEL (STATE OF)     | P | ASIA                 | S |
| IVORY COAST REPUB     | P | BANGLADESH           | S |
| LEBANON               | P | BHUTAN               | S |
| LESOTHO KINGDOM OF    | P | BRUNEI               | S |
| LIBERIA REPUBLIC      | P | BURMA (UNION CF)     | S |
| LIBYAN ARAB REPUB     | P | CAROLINE ISLANDS     | S |
| MADAGASCAR DEM REP    | P | CELEBES SEA          | S |
| MALAWI                | P | CHAGOS ARCHIPELAGO   | S |
| MALI REPUBLIC         | P | CHRISTMAS I INDO     | S |
| MARION ISLAND         | P | CHRISTMAS I (PAC)    | S |
| MAURITANIA (REP. OF)  | P | COMORO ISLAND        | S |
| MAYOTTE ISLAND        | P | COOK ISLANDS         | S |
| MOROCCO (KINGDOM OF)  | P | COOK ISLANDS (NORTH) | S |
| MOZAMBIQUE            | P | EASTER I (CHILE)     | S |
| NIGER (REPUBLIC OF)   | P |                      |   |
| NIGERIA (REPUBLIC OF) | P | FIJI ISLANDS         | S |
| RODRIGUEZ             | P | FRENCH POLYNESIA     | S |
|                       |   | GUAM                 | S |
| RWANDA REPUBLIC       | P | HOWLAND ISLAND       | S |
| SAN MARINO (ITU)      | P | INDIA REPUBLIC OF    | S |
| SENEGAL REPUBLIC      | P | INDONESIA REPUBLIC   | S |
| SIERRA LEONE          | P | JAMMU AND KASHMIR    | S |
| SO AFRICA REPUBLIC    | P | JARVIS ISLAND        | S |
| SP TER NE MOROCCO     | P | KHMER REPUBLIC       | S |
| SPANISH SAHARIAN T    | P | KIRIBATI             | S |
| SWAZILAND KINGDOM     | P | LAOS KINGDOM         | S |
| SYRIAN ARAB REP.      | P | MALAYSIA             | S |
| TANZANIA REPUBLIC     | P | MALDIVES REPUBLIC    | S |
| TANZANIA (ITU)        | P | MARIANA IS (EX GUM)  | S |
| TANZANIA (ZANZIBAR)   | P | MARSHALL ISLANDS     | S |
| TOGOLESE REPUBLIC     | P | MICRONESIA FED ST    | S |
| TUNISIA               | P | NAURU ISLANDS        | S |
| UGANDA                | P | NEPAL                | S |

|                      |   |                     |   |
|----------------------|---|---------------------|---|
| NETHLANDS N GU       | S | ARABIAN SEA         | X |
| NEW GUINES TERR      | S | ARCTIC OCEAN        | X |
| NEW CALEDONIA        | S | ATLANTIC NORTH      | X |
| NIUE ISLAND          | S | ATLANTIC EAST       | X |
| OCEANIA              | S | ATLANTIC OCEAN      | X |
| PALAU REPUBLIC OF    | S | CANADIAN OCEAN STA  | X |
| PALMYRA ISLAND       | S | CLASSIFIED LOCATIN  | X |
| PAPUA (TERRITORY OF) | S | COMM SPCE-RUSSIA    | X |
| PAPUA NEW GUINEA     | S | COMM SPCE-USA       | X |
| PARACEL ISLANDS      | S | COMM SPCE-CANADA    | X |
| PHILLIPPINES REP.    | S | COMM SPCE-RUSSIA    | X |
| PHOENIX ISLANDS      | S | COMM SPCE-FRANCE    | X |
| PITCAIRN ISLAND      | S | COMM SPCE-BELGIUM   | X |
| PORTUGUESE TIMOR     | S | COMM SPCE-RUSSIA    | X |
| SIKKIM               | S | COMM SPCE-USA       | X |
| SINGAPORE REPUBLIC   | S | COMMON USE (ITU)    | X |
| SOLOMON ISLANDS      | S | ELEVENTH NAV DIST   | X |
| SRI LANKA (CEYLON)   | S | FAR EAST            | X |
| SW PACIFIC OCEAN     | S | FIFTH NAV DISTRICT  | X |
| SYCHELLES            | S | FOURTH NAV DIST     | X |
| THAILAND             | S | GT LKS REGION CAP 3 | X |
| TOKELAU ISLANDS      | S | INTELSAT            | X |
| TONGA KINGDOM        | S | INTELSAT            | X |
| TRUST TERRITORIES    | S | INTELSAT            | X |
| TUVALU               | S | INTELSAT            | X |
| UN MAG INDIA PAK     | S | INTER-SHIP (ITU)    | X |
| VANUATA (REP. OF)    | S | INTERNAT WTRS       | X |
| VIET-NAM NORTH       | S | MID E REGION CAP 2  | X |
| VIET-NAM SOUTH       | S | MISSISSIPPI W OF    | X |
| WAKE ISLAND          | S | MISSISSIPPI E OF    | X |
| WALLIS/FUTANA ISLS   | S |                     |   |
| WESTERN SAMOA        | S | N CE REGION CAP 5   | X |
|                      |   | NAMIBIA             | X |
|                      |   | NATO COUNTRIES ALL  | X |
| ADELIE LAND          | T | NE REGION CAP 1     | X |
| AUSTRALIA COMMWLTH   | T | NINTH NAV DIST      | X |
| COCOS KEELING IS     | T | NORTH AMERICA       | X |
| CROZET ARCHIPELAGO   | T | ORBITAL FLIGHT      | X |
| GB INDO TERRITORY    | T | PACIFIC OCEAN       | X |
| INDIAN OCEAN         | T | PACIFIC NORTH       | X |
| KERGUELEN ISLANDS    | T | RECEIVE ONLY RECRD  | X |
| MAURITIUS            | T | SE REGION CAP 4     | X |
| NEW ZEALAND          | T | SPACE SYSTEM        | X |
| REUNION (FRENCH)     | T | SPCE RES-FRANCE     | X |
| ST PAUL AMSTERDAM    | T | SPCE MET-USA        | X |
|                      |   | SPCE RES-FRANCE     | X |
| SPACENON-GEOSTTNR    | U | SPCE MET-USA        | X |
| WORLD WIDE AREA      | U | SPCE RES-USA        | X |
| WORLDWIDE            | U | SPCE RES-USA        | X |
|                      |   | SPCE RES-USA        | X |
| USP (US AND POSS)    | V | SPCE RES-SWEDEN     | X |
|                      |   | SPCE RES-CANADA     | X |
| SPACEGEOSTATIONARY   | W | SPCE RES-JAPAN      | X |
|                      |   | SPCE RES-JAPAN      | X |
| ALL                  | X | SPCE RES-GERMANY    | X |



|                      |   |                      |   |
|----------------------|---|----------------------|---|
| SPCE RES-GERMANY     | X | ASIA SOUTHWEST       | Z |
| SPCE RES-FRANCE      | X | BAHRAIN, STATE OF    | Z |
| SPCE RES-FRANCE      | X | BELIZE               | Z |
| SPCE RES-FRANCE      | X | DJIBOUTI             | Z |
| SPCE MET-FRANCE      | X | EGYPT ARAB REPUBLI   | Z |
| SPCE RES-FRANCE      | X | ETHIOPIA             | Z |
| SPCE RES-FRANCE      | X | IRAN                 | Z |
| SPCE RES-FRANCE      | X | IRAQ REPUBLIC        | Z |
| SPCE MET-RUSSIA      | X | JORDAN (KINGDOM OF)  | Z |
| SPCE RADNAV-USA      | X | KENYA                | Z |
| SPCE RES-FR/GERMANY  | X | KUWAIT (STATE OF)    | Z |
| SPCE RES-CANADA      | X | MIDDLE EAST          | Z |
| THIRTEENTH NAV DIS   | X | OMAN (MUSCAT/OMAN)   | Z |
| TWELTH NAV DIST      | X | PAKISTAN             | Z |
| UK STA IN REGION 1   | X | PERSIAN GULF         | Z |
| UK STA IN REGION 2   | X | QATAR                | Z |
| UK STA IN REGION 3   | X | RED SEA              | Z |
| US POSSESSIONS ONLY  | X | SAUDI ARABIA KINGD   | Z |
| US OCEAN STATION     | X | SOMALI DEM REPUBLI   | Z |
| US (50 STATES-DC)    | X | SOMALILAND (FRENCH)  | Z |
| WRLD WIDE RESTRICT   | X | SOMALILAND (BRITISH) | Z |
|                      |   | SUDAN REPUBLIC       | Z |
| CONTINENTAL US       | Y | SULTANTATE OF OMAN   | Z |
| CONUS 48 STATES DC   | Y | TRUCIAL STATES       | Z |
|                      |   | UN ARAB EMPIRATES    | Z |
| ADEN                 | Z | YEMEN ARAB REPUBLI   | Z |
| AFARS/ISSAS (FRENCH) | Z | YEMEN (PEO DEM REP)  | Z |
| AFGHANISTAN          | Z |                      |   |

**b. This paragraph is sorted by the state/country name.**

|                      |   |                     |   |
|----------------------|---|---------------------|---|
| ADELIE LAND          | T | BHUTAN              | S |
| ADEN                 | Z | BHUTAN (ITU)        | P |
| AEGEAN SEA           | N | BOLIVA              | L |
| AFARS/ISSAS (FRENCH) | Z | BOTSWANA            | P |
| AFGHANISTAN          | Z | BRAZIL              | L |
| AFRICA               | P | BRIT WEST INDIES    | K |
| ALABAMA              | C | BRUNEI              | S |
| ALASKA               | G | BULGARIA PEO REPUB  | O |
| ALASKA ALEUTIAN IS   | H | BURKINA FASO        | P |
| ALASKA MAIN LAND     | G | BURMA (UNION CF)    | S |
| ALBANIA REPUBLIC     | O | BURUNDI KINGDOM     | P |
| ALGERIA              | P | BYELORUSSIAN SSR    | Q |
| ALL                  | X | CALIFORNIA          | F |
| AMERICAN SAMOA       | S | CAMEROON REPUBLIC   | P |
| ANDORRA              | N | CANADA              | J |
| ANGOLA               | P | CANADA EAST COAST   | J |
| ANGUILLA             | K | CANADA EASTCENTRAL  | J |
| ANTARTICA            | L | CANADA NORTHEAST    | J |
| ANTIGUA/BARBUDA      | K | CANADA NORTHWEST    | J |
| ARABIAN SEA          | X | CANADA SOUTHWEST    | J |
| ARCTIC OCEAN         | X | CANADIAN OCEAN STA  | X |
| ARGENTINE REPUBLIC   | L | CANARIES            | K |
| ARIZONA              | E | CAPE VERDE ISLAND   | K |
| ARKANSAS             | E | CARIBBEAN           | K |
| ARUBA                | K | CAROLINE ISLANDS    | S |
| ASCENSION            | K | CAYMAN ISLAND       | K |
| ASIA                 | S | CELEBES SEA         | S |
| ASIA SOUTH           | S | CENTRAL AMERICA     | L |
| ASIA SOUTHEAST       | S | CENTRL AFRICAN REP  | P |
| ASIA SOUTHWEST       | Z | CHAD                | P |
| ATLANTIC EAST        | X | CHAGOS ARCHIPELAGO  | S |
| ATLANTIC NORTH       | X | CHESAPEAKE BAY      | A |
| ATLANTIC OCEAN SE    | P | CHILE (EX EASTER I) | L |
| ATLANTIC OCEAN       | X | CHINA               | R |
| ATLANTIC OCEAN NE    | N | CHRISTMAS I (PAC)   | S |
| ATLANTIC OCEAN NW    | J | CHRISTMAS I INDO    | S |
| ATLANTIC OCEAN WC    | K | CLASSIFIED LOCATIN  | X |
| AUSTRALIA COMMWLTH   | T | COCOS KEELING IS    | T |
| AUSTRIA              | N | COLORADO            | D |
| AZORES               | J | COLUMBIA REPUBLIC   | L |
| BAHAMAS              | K | COMM SPCE-BELGIUM   | X |
| BAHRAIN, STATE OF    | Z | COMM SPCE-CANADA    | X |
| BALTIC SEA           | M | COMM SPCE-FRANCE    | X |
| BANGLADESH           | S | COMM SPCE-RUSSIA    | X |
| BARBADOS             | K | COMM SPCE-RUSSIA    | X |
| BELGIUM              | N | COMM SPCE-RUSSIA    | X |
| BELIZE               | Z |                     |   |
| BENIN                | P | COMM SPCE-USA       | X |
|                      |   | COMM SPCE-USA       | X |
|                      |   | COMMON USE (ITU)    | X |
| BERING SEA           | H | COMORO ISLAND       | S |
| BERLIN WEST          | N | CONGO PEO REPUBLIC  | P |
| BERMUDA              | K | CONNECTICUT         | A |

|                      |   |                      |   |
|----------------------|---|----------------------|---|
| CONTINENTAL US       | Y | GUAM                 | S |
| CONUS 48 STATES DC   | Y | GUATEMALA            | L |
| COOK ISLANDS         | S | GUINEA REPUBLIC      | P |
| COOK ISLANDS (NORTH) | S | GUINES-BISSAU        | P |
| CORSICA              | N | GULF OF MEXICO       | K |
| COSTA RICA           | L | GUYANA               | L |
| CRETE                | N | GUYANA (FRENCH)      | L |
| CROZET ARCHIPELAGO   | T | HAITI REPUBLIC       | K |
| CUBA                 | K | HAWAII               | H |
| CYPRUS REPUBLIC      | N | HAWAII (ITU)         | H |
| CZECHOSLOVAKIA       | O | HONDORAS REPUBLIC    | L |
| DELAWARE             | A | HONG KONG            | R |
| DENMARK              | N | HOWLAND ISLAND       | S |
| DISTRICT OF COLUMBIA | A | HUDSON BAY           | J |
| DJIBOUTI             | Z | HUNGARIAN REPUBLIC   | O |
| DOMINICA             | K | ICELAND              | J |
| DOMINICAN REPUBLIC   | K | IDAHO                | D |
| EASTER I (CHILE)     | S | ILLINOIS             | B |
| ECUADOR              | L | INDIA REPUBLIC OF    | S |
| EGYPT ARAB REPUBLI   | Z | INDIAN OCEAN         | T |
| EIGHTH NAV DIST      | E | INDIANA              | B |
| EL SALVADOR REP.     | L | INDONESIA REPUBLIC   | S |
| ELEVENTH NAV DIST    | X | INTELSAT             | X |
| ENGLISH CHANNEL      | N | INTELSAT             | X |
| EQUATORIAL GUINEA    | P | INTELSAT             | X |
| ETHIOPIA             | Z | INTELSAT             | X |
| EUROPE               | N | INTER-SHIP (ITU)     | X |
| FAEROES ISLANDES     | J | INTERNAT WTRS        | X |
| FALKLAND ISLANDS     | K | IOWA                 | B |
| FAR EAST             | X | IRAN                 | Z |
| FIFTEENTH NAV DIST   | K | IRAQ REPUBLIC        | Z |
| FIFTH NAV DISTRICT   | X | IRELAND              | N |
| FIJI ISLANDS         | S | ISRAEL (STATE OF)    | P |
| FINLAND              | M | ITALY                | N |
| FIRST NAV DISTRICT   | A | IVORY COAST REPUB    | P |
| FLORIDA              | C | JAMAICA              | K |
| FOURTEENTH NAV DIS   | H | JAMMU AND KASHMIR    | S |
| FOURTH NAV DIST      | X | JAN MAYEN            | J |
| FRANCE               | N | JAPAN                | R |
| FRENCH POLYNESIA     | S | JARVIS ISLAND        | S |
| GABON REPUBLIC       | P | JOHNSTON ISLAND      | H |
| GAMBIA (BATHURST)    | P | JORDAN (KINGDOM OF)  | Z |
| GB INDO TERRITORY    | T |                      |   |
| GEORGIA              | C | KANSAS               | D |
| GERMAN DEM REP       | N | KENTUCKY             | B |
|                      |   | KENYA                | Z |
| GERMANY              | N | KERGUELEN ISLANDS    | T |
| GHANA                | P | KHMER REPUBLIC       | S |
| GIBRALTAR            | N | KIRIBATI             | S |
| GREAT LAKES          | B | KOREA REPUBLIC       | R |
| GREECE               | N | KOREA (PEOPLES REP.) | R |
| GREENLAND            | J | KUWAIT (STATE OF)    | Z |
| GRENADA              | K | LAKE ERIE            | B |
| GT LKS REGION CAP 3  | X | LAKE HURON           | B |
| GUADELOUPE F DEPT    | K | LAKE MICHIGAN        | B |

|                      |   |                       |   |
|----------------------|---|-----------------------|---|
| LAKE ONTARIO         | A | NAURU ISLANDS         | S |
| LAKE SUPERIOR        | B | NAV DIST WASH DC      | A |
| LAOS KINGDOM         | S | NE REGION CAP 1       | X |
| LATIN AMERICA        | L | NEBRASKA              | D |
| LEBANON              | P | NEPAL                 | S |
| LESOTHO KINGDOM OF   | P | NETHERLANDS KINGDM    | N |
| LESSER ANTILLES      | K | NETHERLND ANTILLES    | K |
| LIBERIA REPUBLIC     | P | NETHLANDS N GU        | S |
| LIBYAN ARAB REPUB    | P | NEVADA                | F |
| LIECHTENSTEIN        | N | NEW CALEDONIA         | S |
| LOUISIANA            | E | NEW GUINES TERR       | S |
| LUXEMBOURG           | N | NEW HAMSPHIRE         | A |
| MACAO                | R | NEW JERSEY            | A |
| MADAGASCAR DEM REP   | P | NEW MEXICO            | E |
| MADEIRA              | K | NEW YORK              | A |
| MAINE                | A | NEW ZEALAND           | T |
| MALAWI               | P | NICARAGUA             | L |
| MALAYSIA             | S | NIGER (REPUBLIC OF)   | P |
| MALDIVES REPUBLIC    | S | NIGERIA (REPUBLIC OF) | P |
| MALI REPUBLIC        | P | NINTH NAV DIST        | X |
| MALTA                | N | NIUE ISLAND           | S |
| MARIANA IS (EX GUM)  | S | NORTH AMERICA         | X |
| MARION ISLAND        | P | NORTH CAROLINA        | C |
| MARSHALL ISLANDS     | S | NORTH DAKOTA          | D |
| MARTINIQUE F DEPT    | K | NORTH SEA             | N |
| MARYLAND             | A | NORWAY                | M |
| MASSACHUSETTS        | A | NORWEGIAN SEA         | M |
| MAURITANIA (REP. OF) | P | OCEANIA               | S |
| MAURITIUS            | T | OHIO                  | B |
| MAYOTTE ISLAND       | P | OKLAHOMA              | E |
| MEDITERRANEAN SEA    | N | OMAN (MUSCAT/OMAN)    | Z |
| MEDITERRANEAN-EAST   | N | ORBITAL FLIGHT        | X |
| MEDITERRANEAN-WEST   | N | OREGON                | F |
| MEXICO               | L | PAC REGION CAP 8      | F |
| MICHIGAN             | B | PACIFIC NORTH         | X |
| MICRONESIA FED ST    | S | PACIFIC OCEAN         | X |
| MID E REGION CAP 2   | X |                       |   |
| MIDDLE EAST          | Z | PACIFIC OCEAN NE      | G |
| MIDWAY ISLAND        | H | PACIFIC OCEAN NW      | H |
|                      |   | PACIFIC OCEAN SE      | L |
| MINNESOTA            | B | PAKISTAN              | Z |
| MISSISSIPPI          | C | PALAU REPUBLIC OF     | S |
| MISSISSIPPI E OF     | X | PALMYRA ISLAND        | S |
| MISSISSIPPI W OF     | X | PANAMA CANAL ZONE     | K |
| MISSOURI             | B | PANAMA REPUBLIC       | L |
| MONACO               | N | PAPUA NEW GUINEA      | S |
| MONGOLIAN REPUBLIC   | Q | PAPUA (TERRITORY OF)  | S |
| MONTANA              | D | PARACEL ISLANDS       | S |
| MONTSERRAT           | K | PARAGUAY              | L |
| MOROCCO (KINGDOM OF) | P | PENNSYLVANIA          | A |
| MOZAMBIQUE           | P | PERSIAN GULF          | Z |
| N CE REGION CAP 5    | X | PERU                  | L |
| NAMIBIA              | X | PHILLIPPINES REP.     | S |
| NATO COUNTRIES ALL   | X | PHOENIX ISLANDS       | S |
| NATO EUROPE ALL      | N | PITCAIRN ISLAND       | S |

|                      |   |                     |   |
|----------------------|---|---------------------|---|
| POLAND PEO REPUBLI   | O | SPCE RES-FRANCE     | X |
| PORTUGAL             | N | SPCE RES-FRANCE     | X |
| PORTUGUESE TIMOR     | S | SPCE RES-FRANCE     | X |
| PUERTO RICO          | K | SPCE RES-FRANCE     | X |
| QATAR                | Z | SPCE RES-FRANCE     | X |
| RCKY MTN RGN. CAP 7  | D | SPCE RES-GERMANY    | X |
| RECEIVE ONLY RECRD   | X | SPCE RES-GERMANY    | X |
| RED SEA              | Z | SPCE RES-JAPAN      | X |
| REUNION (FRENCH)     | T | SPCE RES-JAPAN      | X |
| RHODE ISLAND         | A | SPCE RES-SWEDEN     | X |
| RODRIGUEZ            | P | SPCE RES-USA        | X |
| ROUMANIA SOCLT REP   | O | SPCE RES-USA        | X |
| RWANDA REPUBLIC      | P | SPCE RES-USA        | X |
| S. HELENA            | K | SPITSBERGEN         | M |
| S. PIERRE/MIQUELON   | J | SRI LANKA (CEYLON)  | S |
| S. TOME/PRINCIPE     | K | ST CRISTOPH/NEVIS   | K |
| SAINT LUCIA          | K | ST PAUL AMSTERDAM   | T |
| SAN MARINO (ITU)     | P | ST VINCENT/GRENADIN | K |
| SARDINIA             | N | SUDAN REPUBLIC      | Z |
| SAUDI ARABIA KINGD   | Z | SULTANTATE OF OMAN  | Z |
| SE REGION CAP 4      | X | SURINAM REP OF      | L |
| SENEGAL REPUBLIC     | P | SW ATLANTIC OCEAN   | L |
| SYCHELLES            | S | SW PACIFIC OCEAN    | S |
| SICILY               | N | SW REGION CAP 6     | E |
| SIERRA LEONE         | P | SWAN ISLAND         | K |
| SIKKIM               | S | SWAZILAND KINGDOM   | P |
| SINGAPORE REPUBLIC   | S | SWEDEN              | M |
| SIXTH NAV DISTRICT   | C | SWITZERLAND CONFED  | N |
| SO AFRICA REPUBLIC   | P | SYRIAN ARAB REP.    | P |
| SOLOMON ISLANDS      | S | TANZANIA (ITU)      | P |
| SOMALI DEM REPUBLI   | Z |                     |   |
| SOMALILAND (BRITISH) | Z | TANZANIA REPUBLIC   | P |
| SOMALILAND (FRENCH)  | Z | TANZANIA (ZANZIBAR) | P |
|                      |   | TENNESSEE           | C |
| SOUTH AMERICA        | L | TENTH NAV DISTRICT  | K |
| SOUTH CAROLINA       | C | TEXAS               | E |
| SOUTH CHINA SEA      | R | THAILAND            | S |
| SOUTH DAKOTA         | D | THIRD NAV DISTRICT  | A |
| SP TER NE MOROCCO    | P | THIRTEENTH NAV DIS  | X |
| SPACE SYSTEM         | X | TOGOLESE REPUBLIC   | P |
| SPACEGEOSTATIONARY   | W | TOKELAU ISLANDS     | S |
| SPACENON-GEOSTTNRY   | U | TONGA KINGDOM       | S |
| SPAIN                | N | TRINIDAD/TOBAGO     | K |
| SPANISH SAHARIAN T   | P | TRISTAN DA CUNHA    | K |
| SPCE MET-FRANCE      | X | TRUCIAL STATES      | Z |
| SPCE MET-RUSSIA      | X | TRUST TERRITORIES   | S |
| SPCE MET-USA         | X | TUNISIA             | P |
| SPCE MET-USA         | X | TURKEY              | N |
| SPCE RADNAV-USA      | X | TURKS/CAICOS IS.    | K |
| SPCE RES-CANADA      | X | TUVALU              | S |
| SPCE RES-CANADA      | X | TWELTH NAV DIST     | X |
| SPCE RES-FR/GERMANY  | X | UGANDA              | P |
| SPCE RES-FRANCE      | X | UK GREAT BRITAIN    | N |
| SPCE RES-FRANCE      | X | UK STA IN REGION 1  | X |
| SPCE RES-FRANCE      | X | UK STA IN REGION 2  | X |

|                     |   |                     |   |
|---------------------|---|---------------------|---|
| UK STA IN REGION 3  | X | VIRGIN IS US (ITU)  | K |
| UKRAINIAN SSR       | Q | VIRGIN ISLANDS      | K |
| UN ARAB EMPIRATES   | Z | VIRGINIA            | A |
| UN MAG INDIA PAK    | S | WAKE ISLAND         | S |
| UN TRUCE SUPER JER  | P | WALLIS/FUTANA ISLS  | S |
| URUGUAY REPUBLIC    | L | WASHINGTON          | F |
| US (50 STATES-DC)   | X | WEST VIRGINIA       | A |
| US OCEAN STATION    | X | WESTERN SAMOA       | S |
| US POSSESSIONS ONLY | X | WISCONSIN           | B |
| USP (US AND POSS)   | V | WORLDWIDE           | U |
| USSR                | Q | WORLD WIDE AREA     | U |
| UTAH                | D | WRLD WIDE RESTRICT  | X |
| VANUATA (REP. OF)   | S | WYOMING             | D |
| VATICAN CITY STATE  | N | YEMEN ARAB REPUBLI  | Z |
| VENEZUELA REPUBLIC  | L | YEMEN (PEO DEM REP) | Z |
| VERMONT             | A | YOGOSLAVIA          | O |
| VIET-NAM NORTH      | S | ZAIRE               | P |
| VIET-NAM SOUTH      | S | ZAIRE               | P |
| VIRGIN IS BR. (ITU) | K | ZAMBIA REPUBLIC     | P |

## ANNEX F – IRAC-APPROVED RECORD NOTES

IRAC Coordination (C), Emission (E), Limitation (L), Priority (P) and Special (S) record notes are used in Data Item 500. IRAC Minute (M) notes are used in Data Item 501.

### Coordination Notes

**C002**--Subject to coordination with the Western Area Frequency Coordinator located at the Navy Pacific Missile Test Center, Pt. Mugu, Cal., prior to use within a 322 kilometer radius of Pt. Mugu or in California south of Latitude 37°30' North.

**C003**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Western Area Frequency Coordinator (WAFC) who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the WAFC as necessary to ensure compatibility with existing uses.

**C004**--Subject to coordination with the Eastern Area Frequency Coordinator located at Patrick AFB, Florida, prior to use within the area bounded by 24°N31°30'N and 77°W 83°W.

**C005**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Eastern Area Frequency Coordinator, Patrick AFB, Florida, who also coordinated it, as appropriate, with Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the Eastern AFC, Patrick AFB, Florida, as necessary to ensure compatibility with existing uses.

**C006**--Subject to coordination with the Area Frequency Coordinator located at White Sands Missile Range, New Mexico, prior to use in the State of New Mexico or other U.S. territory within a 240 kilometer radius of WSMR plus the area of Utah and Colorado that lies south of 41° North and between 108° and 111° West. Phone: 505-678-5417 or 3702, AUTOVON: 258-5417 or 3702.

**C007**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Area Frequency Coordinator, WSMR, New Mexico, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the AFC, WSMR, New Mexico, as necessary to ensure compatibility with the existing uses.

**C008**--Subject to Coordination with the Area Frequency Coordinator located at the Army Electronic Proving Ground, Ft. Huachuca, Arizona, prior to use within the State of Arizona. Phone: 602-538-6423, Autovon: 879-6423.

**C009**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Area Frequency Coordinator, Ft. Huachuca, Arizona, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the AFC, Ft. Huachuca, as necessary to ensure compatibility with existing uses.

**C010**--Subject to coordination with the Gulf Area Frequency Coordinator located at Eglin AFB, Florida, prior to use within the area bounded by 27°N 33°30'N and 83°W 90°W.

**C011**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Gulf Area Frequency Coordinator, Eglin AFB, Florida, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the Gulf AFC, Eglin AFB, Florida, as necessary to ensure compatibility with existing uses.

**C012**--Subject to prior coordination with the Joint Frequency Management Office located at the Commander in Chief Pacific Headquarters, Camp H. M. Smith, Hawaii 96861.

**C013**--Subject to local coordination with Frequency Manager, AFFTC, Edwards AFB, California.

**C015**--Subject to prior coordination with Frequency Manager, Air Force Space and Missile Technical Center, Vandenberg AFB, California.

**C016**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the HQ USAF Frequency Coordinator, Arlington, VA., who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the HQ USAF Frequency Coordinator, Arlington, VA., as necessary to ensure compatibility with existing uses.

**C019**--Subject to prior coordination with Army Frequency Management Office (AFMO) - CONUS, ATTN: SFIS-FAC-SC, Ft. Sam Houston, Texas 78234-5000. Phone: 210-221-2820/2050; DSN: 471-2820/2050.

**C022**--Subject to prior coordination with Frequency Manager, Army Missile Command, Huntsville, Alabama.

**C024**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to its authorization with AFMO CONUS, Ft. Sam Houston, Texas, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with AFMO CONUS, Ft. Sam Houston, Texas, as necessary to ensure compatibility with existing uses.

**C026**--Subject to prior coordination with DOE Frequency Coordinator for Albuquerque Operations Office. Phone 575-3458, FTS, or (702) 295-3458, Commercial, or 575-3343, FTS, (702) 295-3343, Commercial (weekends, holidays, and off-duty hours).

**C027**--Subject to prior coordination with DOE Area Frequency Coordinator, Las Vegas, Nevada, when used within the State of Nevada or within a 160 kilometer radius of Mercury or Tonopah, Nevada. Phone 575-3458 or 1162 FTS, 702-295-3458 or 1162 Commercial, and 575-3343 FTS or, 702-295-3343 Commercial (weekends, holidays, and off-duty hours).

**C028**--Subject to prior coordination with DOE Frequency Coordinator for Albuquerque Operations Office when used in a 160 kilometer radius of Albuquerque, New Mexico. Phone 757-3458, FTS, or (702) 295-3458, Commercial, and 575-3343, FTS, (702) 295-3343, Commercial (weekends, holidays, and off-duty hours).

**C030**--The Department of Commerce is designated as control for Government use of this frequency. Use under this assignment is subject to initial coordination with, and subsequent coordination as indicated by, Radio Frequency Coordinator S.I.G. Research Facilities Center, NOAA, Department of Commerce, P. O. Box 520197, Miami, Florida 33152. Phone 305-526-2936 (FTS 350-2936).

**C031**--Subject to prior coordination with FAA Eastern Regional Office, JFK International Airport, New York 11430, Attn: Frequency Management Office. Phone 718-712-8343.

**C032**--Subject to prior coordination with FAA Southern Regional Office, P. O. Box 20636, Atlanta, Georgia 30344, Attn: Frequency Management Office. Phone 404-763-7385/6.

**C033**--Subject to prior coordination with FAA Central Regional Office, 601 East 12th Street, Kansas City, Missouri 64106, Attn: Frequency Management Office. Phone 816-426-5647.

**C034**--Subject to prior coordination with FAA Southwest Regional Office, 4400 Blue Mound, Fort Worth, Texas 76193-0483, Attn: Frequency Management Office. Phone 817-740-3237.

**C035**--Subject to prior coordination with FAA Western Regional Office, P.O. Box 92007, Worldway Center, Los Angeles, California 90009, Attn: Frequency Management Office. Phone 310-297-1872.

**C036**--Subject to prior coordination with FAA Alaskan Regional Office, 222 West 7th Ave., Anchorage, Alaska 99513. Phone 907-243-7246 or 4399.

**C037**--Subject to prior coordination with FAA Western Pacific Regional Office, Honolulu ARTCC, P.O. Box 50109, Honolulu, Hawaii 96850-4983 Attn: Frequency Management Office. Phone 808-541-1241.

**C038**--Subject to prior coordination with FAA New England Regional Office, 12 New England Executive Park, Burlington, Massachusetts 01803. Phone 617-273-7177.

**C039**--Subject to prior coordination with FAA Great Lakes Regional Office, 2300 East Devon Avenue, Des Plaines, Illinois 60018. Phone 312-694-7071.

**C041**--Subject to prior coordination with FAA Northwest Regional Office, 1601 Lind Avenue, S.W., Renton, Washington 98055-4056. Phone 206-227-2464.

**C042**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Northwest Coordinator, Seattle, Washington. Use of this frequency or band under the authority of this assignment is subject to such further coordination with the FAA Northwest Coordinator, Seattle, Washington, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Northwest regional coordination has been accom-



plished.

**C043**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Western Coordinator, Los Angeles, California. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Western Coordinator, Los Angeles, California, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Western regional coordination has been accomplished.

**C045**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Central Coordinator, Kansas City, Missouri. Use of this frequency or band under the authority of this assignment is subject to such further coordination with the FAA Central Coordinator, Kansas City, Missouri, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Central regional coordination has been accomplished.

**C046**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Southwest Coordinator, Ft. Worth, Texas. Use of this frequency or band under the authority of this assignment is subject to such further coordination with the FAA Southwest Coordinator, Ft. Worth, Texas, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Southwest regional coordination has been accomplished.

**C047**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Great Lakes Coordinator, Des Plaines, Illinois. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Great Lakes Coordinator, Des Plaines, Illinois, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Great Lakes regional coordination has been accomplished.

**C048**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Southern Coordinator, Atlanta, Georgia. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Southern Coordinator, Atlanta, Georgia, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Southern regional coordination has been accomplished.

**C049**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Eastern Coordinator, New York, New York. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Eastern Coordinator, New York, New York, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Eastern regional coordination has been accomplished.

**C050**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA New England Coordinator, Burlington, Massachusetts. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA New England Coordinator, Burlington, Massachusetts, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA New England regional coordination has been accomplished.

**C052**--Subject to local coordination with FCC Engineer-in-Charge to avoid interference to non-Government services.

**C057**--Subject to prior coordination with NASA Spectrum Manager, Johnson Space Center, Houston, Texas. Telephone: (FTS) 525-0122 or (commercial) 713-483-0122.

**C060**--Prior to operational use, this frequency assignment must be coordinated with and concurred by the commander of the military installation listed.

**C061**--Operational use of this frequency assignment has been coordinated with and concurred by the commander of the military installation listed.

**C062**--DOE use of this frequency for telemetering is subject to prior coordination at the national level with agencies having assignments in the same band and will be subject, at the time of such coordination, to adjustment to preclude harmful interference.

**C064**--All transmissions to NASA's ATS-1 through 5 Satellites shall be coordinated and scheduled with the ATS Project Manager or the ATS Experiments Manager, ATS 1/5, Lewis Research Center, Cleveland, Ohio 44135. Telephone: (216) 433-3483 or 433-3570.

**C065**--Subject to coordination, prior to use, with the Department of the Interior, Bureau of Land Management, National Interagency Fire Center, Boise, Idaho. Telephone: (208) 387-5644.

**C067**--Subject to coordination with the Area Frequency Coordinator located at Nellis AFB, Nevada, prior to use in the states of Nevada, Utah west of 111°W and Idaho south of 44°N.

**C068**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Area Frequency Coordinator, Nellis AFB, Nevada, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the AFC as necessary to ensure compatibility with existing uses.

**C069**--Subject to coordination and scheduling with Mr. Carl Staton; National Environmental Satellite, Data, and Information Service; U.S. Department of Commerce; Chief, Data Collection and Direct Broadcast Branch (E/SP21); Washington, D.C. 20233; telephone (301) 763-8326.

**C071**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Alaskan Coordinator, Anchorage, Alaska. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Alaskan Coordinator, Anchorage, Alaska, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Alaskan regional coordination has been accomplished.

**C072**--This frequency assignment on 1030 MHz or in one of the bands 1215-1400, 2700-2900 or 9000-9200 MHz was coordinated prior to authorization with the FAA Pacific Coordinator, Honolulu, Hawaii. Use of the frequency or band under the authority of this assignment is subject to such further coordination with the FAA Pacific Coordinator, Honolulu, Hawaii, as necessary to ensure compatibility with existing uses. This Note applied to an Aeronautical Assignment Group (AAG) frequency (see Section 1.4.1 of the NTIA Manual) indicates FAA Pacific regional coordination has been accomplished.

**C073**--Subject to prior coordination with NASA Spectrum Manager, Wallops Flight Center, Wallops Island, Virginia. Telephone: (FTS) 8-889-1278 or commercial 804-824-1278.

**C074**--Operational activities should be coordinated with NASA Spectrum Manager responsible for JPL/Goldstone Programs. Mail: 4800 Oak Grove Drive, Mail Stop 303-404, Pasadena, CA 91109. Telephone: (FTS) 8-792-0068 or (commercial) 818-354-0068.

**C075**--This assignment has been coordinated with the Hydrology Committee in accordance with Section 8.3.6.

**C076**--This assignment has been coordinated with the Radio Spectrum Manager, National Science Foundation, 1800 G St., N.W., Washington, D.C. 20550. Telephone: (202) 357-9696 in accordance with Section 8.3.7, for the band 1660-1670 MHz, or Section 8.3.19.

**C078**--The domestic fixed aspects of this assignment have been coordinated with NTIA in accordance with Section 8.2.11 of the NTIA manual.

**C080**--Subject to prior coordination with the Department of the Interior, U.S. Geological Survey, Earthquakes Hazards Team, Seismology Section, Menlo Park, CA, Communications Coordinator, (415) 329-4780 or 4727, and subject to adjustment in the event of interference to Interior operations within the same splinter channel (Section 4.3.7).

**C081**--This assignment is for a station in the National Radio Quiet Zone. Successful coordination has been effected in accordance with Section 8.3.9 of the NTIA Manual.

**C085**--Subject to prior coordination with Army Frequency Coordinator, Military District of Washington, ATTN: ASNK-OPB, Fort Lesley J. McNair, Washington, D.C. 20319-5050. Phone 202-475-2554 or 2486, Autovon 335-2554 or 2486.

**C086**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated prior to authorization with the Mid-Atlantic Area Frequency Coordinator, Patuxent River, Maryland, who also coordinated it, as appropriate, with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the AFC as necessary to ensure compatibility with existing uses.

**C088**--Prior to use, this frequency assignment must be scheduled with the Post Frequency Manager, Aberdeen Proving Ground, MD. Telephone: 410-278-7591; DSN 298-7591.

**C089**--This frequency assignment was coordinated prior to authorization with FAA Headquarters, 800 Independence Avenue, S.W., Washington, D.C. 20591. Phone: 202-267-8699.

**C090**--In the band 162 to 174 MHz, subject to coordination with adjacent channel users (bandwidth >11 kHz) prior to establishing a station on an interstitial channel under S322 procedures. This note is automatically deleted on January 1, 2005.

**C091**--This frequency assignment in one of the bands 1435-1535 or 2310-2390 MHz was coordinated with the following Area Frequency Coordinators: Western Area Frequency Coordinator, Point Mugu, California; Eastern Area Frequency Coordinator, Patrick AFB, Florida; Area Frequency Coordinator, White Sands Missile Range, New Mexico; Area Frequency Coordinator, Fort Huachuca, Arizona; Gulf Area Frequency Coordinator, Eglin AFB, Florida; HQ USAF Frequency Coordinator, Washington DC; Army Frequency Coordinator, Fort Sam Houston, Texas; Area Frequency Coordinator, Nellis AFB, Nevada; Mid-Atlantic Area Frequency Coordinator, Patuxent River, Maryland. This assignment was also coordinated with the Aerospace and Flight Test Radio Coordinating Council. Use of this frequency under the authority of this assignment is subject to such further coordination with the appropriate AFC as necessary to ensure compatibility with existing uses.

**C092**--In the band 406.1 to 420 MHz, subject to coordination with adjacent channel users (bandwidth equal to or greater than 12.5 kHz) prior to establishing a station on an interstitial channel under S322 procedures. This note is automatically deleted on January 1, 2008.

**C093**--Subject to coordination with the Area Frequency Coordinator located at the Atlantic Fleet Weapons Training Facility, Roosevelt Roads, Puerto Rico, prior to use within the area 370 kilometers of Headquarters Building, Atlantic Fleet Weapons Training Facility, Roosevelt Roads, Puerto Rico.

**C094**--Subject to coordination with the Area Frequency Coordinator located at the Naval Air Warfare Center Aircraft Division, Patuxent River, Maryland, prior to use within the area enclosed by 100 kilometer radius of Headquarters Building, Naval Air Warfare Center Aircraft Division, Patuxent River, Maryland.

### Emission Notes

**E013**--A3 emission authorized for secondary and intermittent operation.

**E023**--F3 emission authorized for maintenance and test communications only.

**E028**--Lower sideband transmission. The carrier is higher than the assigned frequency shown by one half of the indicated bandwidth.<sup>3</sup>

**E029**--Upper sideband transmission. The carrier is lower than the assigned frequency shown by one half of the indicated bandwidth.

**E030**--Lower sideband greater. The suppressed carrier is higher than the assigned frequency shown by 1.5 kHz.<sup>4</sup>

**E031**--Upper sideband greater. The suppressed carrier is lower than the assigned frequency shown by 1.5 kHz.<sup>2</sup>

**E032**--Lower sideband greater. The suppressed carrier is higher than the assigned frequency shown by .5 kHz.<sup>2</sup>

**E033**--Upper sideband greater. The suppressed carrier is lower than the assigned frequency shown by .5 kHz.<sup>2</sup>

**E035**--Lower sideband transmission.<sup>1</sup>

**E036**--Upper sideband transmission.<sup>1</sup>

**E037**--Full-carrier SSB emission (3KH3E) shall be used except (1) when it is known that the receiving station is capable of receiving suppressed-carrier emission (3KJ3E) and (2) upon request of any station using the same carrier frequency (Ref: FCC 87.67b).

**E038**--When a single sideband emission is used from the various emissions shown on this HF assignment, the carrier frequency will be set to place the center of intelligence at the assigned frequency.

**E039**--The authorized emission bandwidth shall be so located within the band that it does not extend beyond the upper or lower limits of the authorized band shown in the \*FRB entry of circuit remarks. If a portion(s) of the authorized band is to be excluded (\*FBE) the authorized emission bandwidth must not extend into any portion(s) of the excluded band(s).

### Limitation Notes

**L2**--Restricted to (daytime, nighttime, or indicated hours of operation.) Wherever used herein the term daytime means from two hours after local sunrise until two hours before local sunset. The term nighttime only means from two hours prior to local sunset until two hours after local sunrise at (a) specified

point(s). Local time at transmitter is applicable unless otherwise specified.

**L3**--For communication with \_\_\_\_\_ stations only.

**L012**--To be used only in an emergency jeopardizing life, public safety, or important property under conditions calling for immediate communication where other means of communication do not exist or are temporarily disrupted or inadequate. To insure that radio equipment for emergency use is maintained in satisfactory operating condition, testing on such frequencies is permitted, provided that insofar as practicable, transmitters shall be tested with a non-radiating load and the test use of a radiating antenna held to a minimum and provided further that such testing shall be restricted to test message traffic and shall not include operator training.

**L109**--Restricted to non-air carrier operations normally unavailable to military aircraft.

**L113**--L012 FX

**L116**--L2 daytime

**L121**--L2 daytime Hawaii and westward

**L125**--L2 local sunrise to local sunset

**L127**--L2 local sunset to local sunrise

**L131**--L2 nighttime

**L168**--L3 GCA or approach control

**L171**--L3 Agriculture

**L174**--L3 Army

**L177**--L3 Federal Aviation Administration

**L180**--L3 Coast Guard

**L182**--L3 Interior

**L187**--L3 Military

**L188**--L3 Military aircraft or aircraft authorized for military use

**L190**--L3 Navy

**L192**--L3 non-Government

**L193**--L3 non-Government aircraft

**L195**--L3 non-Government coast stations

**L197**--L3 non-Government public correspondence

**L199**--L3 non-Government ships

**L201**--L3 public correspondence

**L203**--L3 U.S. Army Engineers

**L207**--L3 civil aircraft

**L242**--L2 1300-2300 GMT

**L255**--L2 0200-0730 GMT

**L256**--L2 0200-0800 GMT and 1800-2300 GMT

**L257**--L2 0600-2100 GMT

**L278**--L2 0200-1100 GMT

**L282**--This assignment is for "back-up" use only when regular channels are either temporarily disrupted or inadequate.

**L283**--Limited to communications in or near a port, or in locks or waterways, between coast stations and ship stations, or between ship stations, in which messages are restricted to those related to the operational handling, the movement and the safety of ships, and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded.

**L294**--L2 1400-2200 GMT

**L298**--Limited to communications with CAP radio stations when engaged in training or on an actual CAP mission in support of USAF.

**L304**--L2 1500-0800 GMT April through September; 1800-0500 GMT October through March

**L308**--L3 Commerce

**L309**--L012 FB

**L318**--Authority under this assignment is limited to temporary periods and locations for telemetry of seismic data.

**L330**--This assignment is limited to communications with non-Government ships for the exchange of traffic dealing with safety of life or property when other means of communication are not practicable.

**L331**--L2 0900-1300 and 1400-1600 GMT

**L332**--L2 2200-0300 GMT

**L334**--L2 0330-1830 GMT

**L336**--L2 1000-1700 GMT

**L339**--L2 1200-0300 GMT

**L341**--Limited to operations conducted in accordance with Bridge-to-Bridge portion of Section 8.2.29 of the NTIA Manual

**L343**--L3 Tennessee Valley Authority

**L347**--L2 2330-2230 GMT

**L350**--Limited to use from November 15 to April 1.

**L351**--L2 2000-1000 GMT

**L353**--L2 0100-0600 Local

**L355**--Limited to ground transmissions only.

**L356**--Mobile transmissions allowed only in accordance with Section 7.5.5 of the NTIA Manual.

**L357**--This band assignment is authorized only for air/ground frequency assignment in the AAG/MAG bands (118-137 MHz and those frequencies utilized by the FAA for air traffic control in the 225-328.6 and 335.4-400 MHz band) and is for "back-up" use only when regular channels are either temporarily disrupted or inadequate. Actual frequencies will be listed in Agency Remarks.

**L358**--L2 1300-2200 GMT

#### **"M"--Notes**

**M001**--A note concerning this assignment is recorded in the minutes of the FAS meeting at which the application was approved. The source of the note is identified in the CIRCUIT REMARKS field (\*NTS).

**M002**--This assignment was coordinated with IRAC or NTIA, and/or is subject to the conditions stated in the letter, the IRAC Document, the FAS Docket, or the FCC Regulation referenced in the CIRCUIT REMARKS field (\*NTS).

**M003**--Subject to coordination prior to activation and, as appropriate, possible scheduling with the activity(ies) or station(s) listed in the CIRCUIT REMARKS field (\*NTS).

**M004**--Subject to coordination prior to activation and, as appropriate, possible scheduling with the activity(ies) listed in the CIRCUIT REMARKS field (\*NTS) when used within interference range of such activity(ies) or station(s).

**M006**--Subject to coordination prior to activation with the National Weather Service Meteorologist-In-Charge at the location(s) listed in the CIRCUIT REMARKS field (\*NTS).

**M007**--Subject to notification of activation to the agency or activity listed in the CIRCUIT REMARKS field (\*NTS).

**M008**--Operations under the authority of this assignment are subject to immediate adjustment, including cessation, if they result in harmful interference to the operations listed in the CIRCUIT REMARKS field (\*NTS).

**M009**--Operations under the authority of this assignment a) are on a noninterference basis to the operations of the agency listed in the CIRCUIT REMARKS field (\*NTS) on the same or adjacent channel and b) no protection can be afforded by that agency.

**M010**--This assignment was agreed to on a nonrenewable basis by the agency identified in the CIRCUIT REMARKS field (\*NTS).

**M011**--Limited to the non-broadcast hours of and subject to coordination prior to activation with the station(s) listed in the CIRCUIT REMARKS field (\*NTS).

**M013**--Subject to prior coordination with and concurrence by the organization/official listed in the CIRCUIT REMARKS field (\*NTS) and to temporary cessation when required for marine environmental operations.

**M014**--During transmission, aircraft shall not exceed the altitude listed in the CIRCUIT REMARKS field (\*NTS).

**M015**--The system using this assignment was reviewed by the SPS in accordance with Chapter 10 and the assignment is being made subject to conditions stated in the IRAC and SPS documents referenced in the CIRCUIT REMARKS field (\*NTS).

**M016**--This assignment, made pursuant to Resolution 8 of the GWARC-79, is for planning purposes

and is not an authority to operate. Operations may commence after satisfactory replacement action has been completed for (FAS DKT number(s)--optional: freq, agency serial number), and/or after (XXYY) (Date agreed to by displaced agency).

**M017**--This non-Government space station assignment is made with the understanding that protection cannot be guaranteed to reception of the non-Government earth station(s) identified in the CIRCUIT REMARKS field (\*NTS) due to the operation of existing transmitting earth stations and/or Government fixed stations.

### Priority Notes

**P032**--Noninterference basis

**P074**--Not to preclude expansion and adjustment of operations within the band 162.0 to 174.0 MHz by non-military Government agencies

**P076**--Not to preclude expansion and adjustment of operations within the band 406.1 to 420.0 MHz by non-military Government agencies.

### Special Notes

**S012**--This operation does not include operator qualification training, but is a periodic operation of a communications system manned by fully qualified operators who are military reservists or affiliates. Except in emergencies, this frequency assignment will not be used as a means for passing traffic that in the absence of this authorization would require delivery by other means.

**S015**--Remote control

**S017**--This assignment is for the training of personnel in the technique and operational aspects of the electronic equipment.

**S032**--Common simplex channel for emergency and distress communications only. Available to all stations operating in or with aeronautical services.

**S034**--Disaster communications

**S035**--Distress, safety and calling

**S038**--FAC operation simultaneous with RLL

**S041**--For calibrating direction finders

**S043**--For emergency use at scene of air sea rescue

**S047**--For transmission of hydrologic and meteorological data

**S048**--For transmission of hydrologic data

**S059**--Radio direction finding

**S063**--Search and rescue communications

**S067**--Subject to Department to the Interior, Bureau of Indian Affairs net control

**S068**--Subject to immediate shutdown as needs of service may dictate

**S070**--Subject to immediate cancellation upon notice from FCC

**S085**--Training and testing operations

**S120**--Intermittent equipment tests

**S139**--Transmissions on this frequency will be discontinued upon receipt of notification to the effect that harmful interference is being caused to the international broadcasting service.

**S141**--This U.S. Government record is outside of the US&P and therefore does not fall within the jurisdiction of the NTIA and IRAC/FAS. This record is incorporated into the Government Master File for spectrum management, analysis and information purposes and does not constitute NTIA authority to transmit.

**S142**--Drone Control

**S144**--This assignment is not in complete conformity with the National Table of Frequency Allocations. Those operations that are conducted under the non-conforming portions of this assignment are on a secondary basis to operations conducted under assignments that are in conformity with the National Table of Frequency Allocations.

**S145**--This frequency is subject to adjustment upon notice from the Military.

**S147**--These frequencies are used for a very short time only during actual nuclear test or dry runs prior to actual test. Such use of frequencies will be on a secondary basis subject to the avoidance of harmful interference to all operations established in accordance with international allocations applicable to these frequencies and to all other operations regularly authorized within the United States and Possessions on specific frequencies within these bands.

**S148**--This is an assignment for domestic service use in providing instantaneous transmission of vital emergency, operational command and alerting traffic of such importance as to affect the immediate survival and defense of the Nation. Circuits utilizing this frequency will be maintained in an operational status at all times, with on-the-air test transmissions to insure the highest degree of readiness. This assignment requires protection commensurate with the importance of the communications for which the circuit is intended.

**S149**--Any use of this assignment that is not at a transient location or that is for a period exceeding 15 days shall be notified to the FAS.

**S154**--Scene of disaster frequency

**S155**--For interception and retransmission of television signals

**S157**--Non-Government service

**S159**--U. S. Government short-distance low-power service

**S160**--This assignment has been made pursuant to Part 7.12 of the NTIA Manual and has been coordinated in accordance with Section 8.3.3.

**S164**--This assignment is not in complete conformity with the National Table of Frequency Allocations. Nevertheless, in the national interest, it is on an equal basis with assignments that are in conformity with the National Table of Frequency Allocations.

**S165**--This assignment has been made pursuant to Section 7.5.2 of the NTIA Manual for communication with non-Government stations in the maritime mobile service.

**S170**--Authorized additionally in tactical and training operations when employing single sideband equipment with 3KH3E, 4KJ7B, 4KJ9W emissions for use with peak envelope powers not to exceed 2000 watts. In such operations the following additional conditions are applicable. All necessary emissions under the several modes of operation, including reduced carriers, shall be within " 3 kHz of the listed frequency. If harmful interference is caused to authorized operations, the power of this operation will be reduced to the mean power shown for this listing. In the determination of particular listed frequencies and associated carrier frequencies to meet individual tactical needs, due consideration will be given, particularly when utilizing powers in excess of the powers normally authorized on this frequency, to the avoidance of harmful interference to radio services authorized on the same or adjacent frequencies. With respect to the conduct of peacetime training operations, such use of the frequency is on a non-interference basis to the authorized operations of other agencies.

**S171**--Authorized additionally in tactical and training operations when employing single sideband equipment with 3KH3E, 4KJ7B, 4KJ9W emissions for use with peak envelope powers not to exceed 400 watts. In such operations the following additional conditions are applicable. All necessary emissions under the several modes of operation, including reduced carriers, shall be within " 3 kHz of the listed frequency. If harmful interference is caused to authorized operations, the power of this operation will be reduced to the mean power shown for this listing. In the determination of particular listed frequencies and associated carrier frequencies to meet individual tactical needs, due consideration will be given, particularly when utilizing powers in excess of the powers normally authorized on this frequency, to the avoidance of harmful interference to radio services authorized on the same or adjacent frequencies. With respect to the conduct of peacetime training operations, such use of the frequency is on a non-interference basis to the authorized operations of other agencies.

**S179**--Power shown is for emergencies only. Normal power is 4 kW or less.

**S181**--This assignment was authorized pursuant to Public Law 87-795.

**S185**--Secondary service. Maximum number of transmitters authorized: 10

**S186**--Power shown is for intermittent or emergency use. Normal power is 20 kW.

**S187**--Power shown is for emergency use. Normal power is 2.5 kW.

**S189**--Tactical and/or training operations

**S195**--Safety Communications.

**S199**--Navy operations authorized by assignments bearing this note shall not cause harmful interference to those non-Government operations existing at the time of authorization. The Navy agrees to make such adjustments of its group of high frequency coast telegraph assignments bearing this note as may be necessary to accommodate necessary expansion or adjustment of the non-Government coast telegraph service.

**S200**--JCS communication circuit

**S205**--Civil defense network

**S206**--This assignment is for an operation for which other telecommunication facilities do not exist, are inadequate, or are impracticable of installation, and for which the use of frequencies above 30 MHz is not practicable. This note applies to FX or AX station classes only.

**S208**--This assignment is for the domestic haul of overseas traffic in transit or destined for the

United States, for an operation where technical and operational requirements dictate such use. The domestic radio haul is a segment of the overall overseas radio system.

**S211**--50 kW mean power used during emergency or unusually poor propagation conditions. 10 kW mean power used during normal conditions. 2.5 kW mean power used during unusually good propagation conditions.

**S219**--Power shown is for emergency use. Normal power is 3 kW.

**S227**--Power shown is for emergency use. Normal power is 1.5 kW.

**S233**--This assignment is part of a frequency pool, and, with Department of State approval, it may be used by foreign embassies that are authorized the use of other frequency assignments under Public Law 87-795.

**S242**--The NASA Unified S-band system operates in the 2270-2290 MHz portion of the 2200-2290 MHz space telemetering band on a shared basis. This system will be utilized in space missions of extended duration. In certain geographical areas agencies conducting telemetering operations on the shared frequencies in the 2270-2290 MHz band may be requested by NASA to adjust such operations as necessary to support the space mission involved.

**S264**--This assignment will not be used except in the event that full-scale atmospheric nuclear testing is resumed, and it is further subject to prior coordination with CINCPAC.

**S265**--Transmissions shall be directed so as to avoid harmful interference to FAA stations in the Edwards AFB area.

**S267**--Required for use in emergency areas when required to make initial contact with RACES units. Also for communications with RACES stations on matters requiring coordination.

**S279**--This listing represents a use of a laser(s) for telecommunication purposes and it is entered in the Government Master File (GMF) for information.

**S286**--The Coast Guard agrees to make such adjustments in its coast telegraph operations as necessary to provide an accommodation for non-Government coast radiotelegraph operations anticipated by the designation of this frequency in Part 81, FCC Rules.

**S288**--This frequency assignment is to support the National Command Authority. Circuits utilizing this frequency will be maintained in operational status at all times.

**S291**--Operations are subject to compliance with FCC Rules and Regulations Part 87, subpart c. Advisory service shall be given to any private aircraft upon request. The use of this frequency shall not be a deterrent to the establishment of a non-Government advisory station in this area. Operations on this frequency shall cease upon the establishment of non-Government facilities or upon notice of harmful interference thereto.

**S292**--Not to be a bar to complete operational implementation of common system aids to Air Navigation.

**S296**--Not to preclude assignment of this frequency to other agencies at specific locations.

**S298**--Subject to Department of the Interior, U.S. Fish and Wildlife Service net control.

**S299**--Power shown is into a buried vertical dipole. ERP is approximately 1 kW.

**S301**--Operations under the authority of this assignment a) are not protected from harmful interference which may be caused by authorized stations operating in accordance with the National Table of Frequency Allocations and b) are subject to immediate adjustment, including cessation, if they result in harmful interference to authorized stations operating in accordance with that table.

**S302**--Subject to the understanding that equipment will not be developed for operational use in this band.

**S303**--Subject to the understanding that there is not intended operational use of this equipment within USP.

**S321**--This assignment is for planning purposes not to exceed 3 years (see Section 9.6.5). The Note will be deleted after the assignment has been activated or this assignment will be deleted after specific locations have been notified.

**S322**--Stations established under the authority of this assignment shall conform to its technical particulars and shall be notified, as specified in Section 9.1.3 of the NTIA Manual, for inclusion in the list of Frequency Assignment to Government Radio Stations.



**S323**--This assignment is for use in a system, or research and development looking toward such a system, for which funds have been committed for Stage 1 (Planning [conceptual]), as defined in Section 10.3.1 of the NTIA Manual prior to January 1, 1973. Follow-on stages in the system life cycle are subject to the provisions of Part 10.3 of the NTIA Manual.

**S324**--This assignment is for use in a system, or research and development looking toward such a system, for which funds had been committed for Stage 2 (Experimentation), as defined in Section 10.3.1 of the NTIA Manual, prior to January 1, 1973. Follow-on stages in the system life cycle are subject to the provisions of Part 10.3 of the NTIA Manual.

**S325**--This assignment is for use in a system, or research and development looking toward such a system, for which funds had been committed for Stage 3 (Development), as defined in Section 10.3.1 of the NTIA Manual, prior to January 1, 1973. Follow-on stages in the system life cycle are subject to the provisions of Part 10.3 of the NTIA Manual.

**S326**--This assignment is for use in a system, or research and development looking toward such a system, for which funds had been committed for Stage 4 (Procurement), as defined in Section 10.3.1 of the NTIA Manual, prior to January 1, 1973.

**S327**--Marine environmental protection command/control/surveillance operations. Authorized additionally for other maritime mobile operations when not required for marine environmental purposes.

**S328**--This assignment is not planned for renewal. It has been replaced by another assignment.

**S330**--The equipment nomenclature or appropriate equipment coding is to be provided within six months after activation of the authorized station/s.

**S334**--Subject to Department of the Interior, Bureau of Land Management net control.

**S335**--This telemetry assignment is on a non-interference, nonprotected basis as concerns assignments in the aeronautical mobile service.

**S337**--This ITU Appendix 18 frequency for public correspondence from ships to coast stations is assigned to a remote Coast Guard lighthouse because it has no other means for entering the RCA ALSCOM System.

**S340**--To be used in support of DOE scientific missions with protected status for short periods of time during actual operations. Such use will require coordination between the DOD and DOE and will be on a scheduled basis.

**S341**--Subject to the continued applicability of note P074, this WSMR assignment is exempt from the requirement to be converted to a frequency listed in Section 4.3.7, NTIA Manual.

**S343**--Within the areas listed in footnote US117 in the National Table of Frequency Allocations, operations under the authority of this assignment, other than those of mobile stations, are subject to prior coordination with the Secretary of the Committee on Radio Frequencies of the National Academy of Sciences.

**S344**--This assignment has been granted a waiver and need not comply to the provisions of Section 8.2.20 of the NTIA Manual

**S345**--DOE operations in the band 4400-4990 MHz under this authority will be for emergency deployment of the NEST system. For such use in a given area, DOE will select clear channels based upon current GMF records. If time permits, DOE will coordinate specific frequencies with the appropriate military frequency managers/coordinators in the field. Tests and training will not be conducted under this authority; frequency applications for such operations will be submitted to the FAS/IRAC on a case by case basis.

**S346**--This FAA assignment in the band 118- 136 MHz is for standby equipment and is used interchangeably with a co-channel assignment at a separate site.

**S348**--Operations are subject to compliance with FCC Rules and Regulations, Part 95, Subpart D. Transmitters may be operated only by employees of the Federal Government only for the purpose of interfacing with Non-Government licensees to coordinate essential and mutual activities. This authority may be revoked by the Federal Communications Commission in its discretion at any time.

**S349**--Not to preclude assignment of this frequency outside of normal land mobile interference range (excluding skip and sporadic E reflection etc.) of DOE receive stations.

**S350**--In the frequency band 30-400 MHz for this FAC operation, power shown is for primary equipment. Back-up equipment has been engineered and installed with output power up to 35 watts. Use of this back-up equipment is authorized during emergencies and/or failure of primary equipment.

**S351**--This assignment is planned for implementation or deletion as a consolidation of frequencies being used.

**S352**--This assignment is for intermittent wide area requirements of transient, itinerant nature pursuant to Section 4.2.3 of the Manual.

**S353**--This assignment is for a common user frequency pursuant to Section 4.2.4 of the Manual.

**S354**--This planned assignment is for a Space Project that has been approved in principle by NTIA

in the research/development phase. Some operational characteristics have not been determined. This listing does not provide authority to transmit.

**S357**--Power shown is for emergencies only. Normal power is 10 kw.

**S358**--This assignment is exempt from referral to NTIA by Exception 1 of the domestic fixed policy in Section 8.2.11 of the NTIA Manual.

**S359**--This assignment is exempt from referral to NTIA by Exception 2 of the domestic fixed policy in Section 8.2.11 of the NTIA Manual.

**S360**--This assignment is exempt from referral to NTIA by Exception 3 of the domestic fixed policy in Section 8.2.11 of the NTIA Manual.

**S361**--Multiple transmitting and/or receiving stations operating at FIXED locations are involved in this assignment; and, it is not feasible to indicate all specific locations. (The method of operation must be fully explained in supplementary details when S361 is applied to a frequency assignment.)

**S362**--One or more transportable transmitting and/or receiving stations are utilized in this assignment.

**S366**--Operations will be outside of the U.S./ Canada Border Zone or power used while operating in the Border Zone will not exceed 5 watts.

**S367**--This frequency assignment has been made on an exceptional basis for operation in the National Radio Quiet Zone on the conditions that use shall be minimized consistent with operational requirements and that any technical modification to this assignment shall be coordinated in accordance with NTIA Manual 8.3.9.

**S368**--Subject to Department of the Interior, Bureau of Reclamation net control.

**S369**--This assignment is in accordance with Section 8.2.44.

**S370**--Transportable Earth Station operations in the 7300-7750 MHz and 8025-8400 MHz bands shall be deployed in such a manner as not to cause harmful interference to existing assignments and will adjust to allow additional stations of other radio services in these bands as required.

**S371**--This assignment is in accordance with Chapter 10 and Part 7.14 of the NTIA Manual.

**S372**--This assignment for the San Francisco/Pt Reyes area is subject to adjustments to accommodate new systems/programs or reassignments resulting from the implementations of these systems/programs.

**S373**--This assignment, in the 2700-2900 MHz band, is for operation in a designated heavily used area or for collocated operation (see Annex D of the NTIA Manual). This equipment has the capability of implementing the additional Electromagnetic Compatibility (EMC) provisions of RSEC Criteria D under Section 5.3 of the NTIA Manual. Implementation of this capability may be necessary at a later date

**S375**--Operations authorized by assignments bearing this note shall be subject to the GMF recording method being developed in accordance with IRAC Doc. 23200/1 (FAS ADM 830029/1).

**S376**--Operations on this frequency under direct-control of the USDA, Forest Service.

**S378**--In emergency situations a maximum power of 25 watts for ship stations and 10 watts for coast stations is authorized.

**S379**--This assignment shall expire upon conclusion of the OPERATION ALLIANCE mission.

**S381**--Operations under this assignment are for SHARES traffic in accordance with Section 7.3.5 of the NTIA Manual.

**S382**--This record is retained for spectrum management and analysis purposes and does not constitute an NTIA authority to transmit.

**S383**--This sounder assignment complies with Section 8.2.21 of the NTIA Manual. The frequency bands listed in paragraph 1.c. of Section 8.2.21 have been suppressed. The information required by paragraph 2 of Section 8.2.21 is provided in the supplementary details of this assignment.

**S384**--This assignment has been made pursuant to Part 4.3.2 of the NTIA Manual.

**S385**--This GMF listing identifies passive sensor or Radio Astronomy receiving stations for spectrum management and analysis purposes and does not constitute an NTIA authority to transmit. Interference protection to the receiving station is afforded only to the extent provided in the National Table of Frequency Allocations.

**S386**--Operations authorized by assignments bearing this note shall be restricted to direct support of the OPERATION ALLIANCE mission, and are subject to the management and control of the U.S. Customs Service.

**S387**--Upon implementation of narrowband operations this channel will be vacated.

**S388**--This assignment supports DSCS Operations Center earth stations limited to locations at Fort Detrick, and Fort Meade, Maryland, and Camp Roberts, California. This assignment shall not preclude new terrestrial assignments within or overlapping the frequency band 7250-7750 MHz provided each new terrestrial assignment does not exceed a maximum tolerable interfering power of -141.3 dBm in any 30

kHz bandwidth at the earth station receiver. In addition, this assignment has no priority over either future meteorological-satellite systems (See G104) or terrestrial assignments authorized prior to April 26, 1994.

**S389**--The bands 2390-2400, 2402-2417 and 4660-4685 MHz were identified for immediate reallocation, effective August 10, 1994, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective August 10, 1994, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations.

**S390**--This assignment for wideband telegraphy, facsimile and/or special transmission systems in the Maritime Mobile Service is being made in accordance with the NTIA Manual, Section 8.2.29, paragraph 5.c.(1) and ITU RR4323BI.

**S391**--This assignment is an expansion or enhancement of an existing system in the 138-150.8, 162-174, or 406.1-420 MHz band which utilizes a band-width greater than 11 kHz.

**S392**--The bands 2300-2310 and 2400-2402 MHz were identified for reallocation, effective August 10, 1995, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective August 10, 1995, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations.

**S393**--The band 2417-2450 MHz was identified for reallocation, effective August 10, 1995, for mixed Government and non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993.

**S394**--Subject to Department of the Interior, National Park Service, net control.

**S395** - The band 4635-4660 MHz was identified for reallocation, effective January 1, 1997, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective January 1, 1997, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations. However, government operation of mobile (including airborne) systems authorized as of March 22, 1995 within 80km of Pico Del Este, PR (18E 16' N, 65E 46' W), Dam Neck, VA (36E 46' N, 75E 57' W), and St. Thomas, VI (18E 21' N, 64E 55' W) will be permitted on a fully protected basis until January 1, 2009.

**S396**--This assignment is in accordance with Section 4.3.9, paragraph 6d, of the NTIA Manual.

**S397**--This assignment is for a joint law enforcement requirement pursuant to Section 4.3.16 of this Manual.

**S398**--This assignment is for a joint incident response requirement pursuant to Section 4.3.16 of this Manual.

**S514**--This assignment supports NASA Space Program ATS-3.

**S518**--This assignment supports NASA Space Program ATS-1.

**S544**--This assignment supports NASA Deep Space Program PIONEER.

**S545**--This assignment supports NASA/Commerce Earth Exploration Service Space Program LANDSAT.

**S553**--This assignment shall expire upon completion of Space Project Defense Meteorological Satellite Program Block 5.

**S558**--This assignment shall expire upon completion of Space Project SAMSO 080-70.

**S566**--This assignment shall expire upon completion of Space Project Advanced Technology Satellite Global Positioning System.

**S567**--This assignment shall expire upon completion of Space Project Deep Space Program.

**S569**--This assignment shall expire upon completion of Space Project Transit Improvement Program (TIP).

**S570**--This assignment shall expire upon completion of Space Project FLEETSATCOM.

**S571**--This assignment shall expire upon completion of Space Project LES 8/9.

**S572**--This assignment shall expire upon completion of Space Project Air Force Satellite Data System.

**S574**--This assignment supports NASA Space Program ISEE.

**S575**--This assignment supports NASA Space Program TDRSS.

**S576**--This assignment supports NASA Space Program Space SHUTTLE (STS).

**S578**--This assignment supports NASA Space Program NIMBUS-7.

**S580**--This assignment shall expire upon completion of Space Project Gapfiller (MARISAT).

**S589**--This assignment supports NASA Space Program IMP-8.

**S594**--This assignment is for Space System GOES.

**S595**--This assignment shall expire upon completion of Space Project GPS Phase II.

**S597**--This assignment is in support of Navy Space Surveillance System.

**S603**--This assignment is in support of Space Ground Link Subsystem (SGLS) operations.

**S604**--This assignment is in support of foreign space operations.

**S606**--This assignment shall expire upon completion of Space Project NATO IIIA.

**S616**--This assignment shall expire upon completion of Space Project DSCS Phase II.

**S617**--This assignment supports NASA Space Program SAR.

**S619**--This assignment is in support of the INTELSAT V.

**S621**--This Application is in support of a DOD Space Project.

**S622**--This assignment supports NASA Space Program DE-A.

**S625**--This assignment shall expire upon completion of Space Project IUS.

**S626**--This assignment shall expire upon completion of Space Project LEASAT (FLTSATCOM-A).

**S627**--This assignment is in support of the Small Business Satellite.

**S629**--This assignment is in support of Space System TIROS-N.

**S632**--This assignment supports NASA Deep Space Program VOYAGER.

**S633**--This assignment supports NASA Deep Space Program GALILEO.

**S634**--This note is to be used in conjunction with S604, to reflect assignments used by NASA in a cooperative effort with the European Space Agency (ESA) in support of Space Program ULYSSES (formerly known as the International Solar Polar Mission (ISPM)).

**S641**--This assignment supports NASA Space Program SPACE TELESCOPE (ST).

**S642**--This assignment supports NASA Space Program Solar Mesosphere Explorer.

**S643**--This assignment shall expire upon completion of Space Project DSCS Phase III.

**S646**--This assignment supports NASA Space Program AMPTE.

**S647**--This assignment supports NASA Space Program ERBS.

**S651**--This assignment supports NASA Space Program Space Station.

**S655**--This assignment supports NASA Deep Space 30 GHz Systems.

**S661**--This assignment is in support of the Strategic Defense Initiative (SDI) Program.

**S662**--This assignment is for Common Carrier service provided in a non-Government Domestic Satellite System. The specific frequency and satellite is dependent upon the Common Carrier selected to provide the service.

**S664**--This assignment shall expire upon termination of the satellite system STATIONAR (USSR).

**S665**--This assignment is in the INMARSAT space system. If this assignment is for a transportable land-based or aeronautical INMARSAT terminal, it is subject to coordination with the Common Carrier Bureau of the Federal Communications Commission. This coordination will be conducted by the Communications Satellite Corporation in accordance with Annex E, paragraph 3.1.3 of the NTIA Manual.

**S666**--This assignment is in support of Space Project NATO IV.

**S668**--This assignment supports NASA Space Program Tethered Satellite System (TSS).

**S669**--This assignment supports the Volunteers in Technical Assistance (VITA) PACSAT space system.

**S670**--Non-Government testing of future INTELSAT satellites.

**S671**--This assignment supports the Orbital Sciences Corporation DATASAT Space System.

**S673**--This assignment supports NASA Space Program Cosmic Background Explorer (COBE) Satellite.

**S674**--This assignment supports NASA Space Program Atmospheric Research Satellite (UARS).

**S675**--This assignment supports NASA Space Program Gamma Ray Observatory (GRO).

**S676**--This assignment supports NASA Space Program Advanced Communications Technology Satellite (ACTS).

**S677**--This assignment supports NASA Space Program Astronomical Shuttle Pallet Satellite (ASTRO-SPAS).

**S678**--This frequency supports AF/DOE Space Project ALEXIS.

**S679**--This assignment supports NASA Space Program Wideband Data Collection System.

**S680**--This frequency supports Commerce project Pan-Pacific Educational and Cultural Experiments by Satellite (PEACESAT).

**S681**--This assignment supports NASA Extra-Vehicular Activity UHF Communications Subsystem.

**S683**--This assignment supports NASA TOPEX/Poseidon (TOPO) Mission.

**S684**--This assignment supports NASA Space Program Solar Anomalous and Magnetospheric Particle Explorer (SAMPEX) in the Small Explorer (SMEX) Project.

**S685**--This assignment supports NASA Space Program Wake Shield Facility (WSF).

**S686**--This assignment supports NASA Explorer Platform (EP).

**S687**--This assignment supports NASA Tether Dynamics Explorer/Tethered Atmospheric Probe (TDE/TAP).

**S688**--This assignment supports the Soviet POTOK I space system.

**S690**--This assignment supports the LIGHT-SAT Satellite System.

**S692**--This assignment supports Motorola Satellite Communications, Inc.'s IRIDIUM space system.

**S693**--This assignment supports the NASA Telemedicine 18-Month Demonstration Project.

**S694**--This assignment supports NASA Commercial Experiment Transporter (COMET).

**S695**--This assignment supports Orbiter-ACTS Flight Experiment (O-AFE).

**S696**--This assignment supports NASA Tropical Rainfall Measurement Mission (TRMM).

**S698**--This assignment will expire upon completion of the Space Project NATO IV.

**S700**--This assignment supports NASA SeaStar Ocean Color Project.

**S701**--This assignment supports NASA Energy Transient Experiment (HETE).

**S702**--This assignment supports experiments with the satellite system S/80-T (French).

**S703**--This assignment supports the NASA Summer Undergraduate Research Fellowship Satellites I and II (SURFSAT).

**S704**--This assignment supports the Interfero-metrics, Inc. Space System.

**S705**--This assignment supports the NASA NEXT SCATTEROMETER (NEXSCAT).

**S706**--This assignment supports the NASA Space Radar Laboratory 1 (SRL-1).

**S708**--This assignment supports the NASA Total Ozone Monitoring Spectrometer Earth Probe (TOMS-EP).

**S709**--This assignment supports the NASA MicroLab-1 mission.

**S710**--This assignment supports the MILSTAR Communications Satellite System.

**S711**--This assignment supports the NASA "Shuttle/MIR" Communications System.

**S712**--This assignment supports DOE proliferation detection and environmental monitoring satellite program.

**S713**--This assignment supports the NASA Fast Auroral Snapshot Explorer (FAST).

**S714**--This assignment supports the NASA Submillimeter Wave Astronomy Satellite (SWAS).

**S715**--This assignment supports the NASA International Solar Terrestrial Program (ISTP) Interplanetary Physics Laboratory WIND.

**S717**--This assignment supports the NASA Earth Observing System AM (EOS).

**S719**--This assignment supports the NASA Advanced Composition Explorer (ACE).

**S720**--This assignment supports the NASA Near Earth Asteroid Rendezvous (NEAR).

**S721**--This assignment supports the NASA MARS PATHFINDER Satellite System.

**S722**--This assignment supports the NASA CASSINI Satellite System.

**S723**--This assignment supports the NASA Advanced X-Ray Astrophysics Facility-Imaging (AXAF-I) Satellite System.

**S724**--This assignment is for commercial service using the Russian LOUATCH WSDRN Satellite.

**S725**--This assignment is in support of the Small Spacecraft Technology Initiative (SSTI) CLARK Satellite.

**S726**--This assignment supports the NASA X-Ray Timing Explorer (XTE).

**S727**--This assignment is in support of the HEALTHSAT-II Satellite.

**S728**--This assignment supports the NASA Lewis Satellite System.

**S729**--This assignment supports National Ocean Service experiments with TDRS 174W.

**S730**--This assignment supports the NOAA K, L, and M Satellite System.

**S731**--This assignment supports the NASA Polar Plasma Laboratory Satellite System - POLAR.

**S732**--This assignment supports the CTA Commercial Systems, Inc. space system.

**S733**--This assignment supports the EARTHWATCH Remote Sensing System.

**S734**--This assignment supports the E-SAT, Inc. space system.

**S735**--This assignment supports the NASA Student Nitric Oxide Explorer (SNOE) Satellite System.

**S736**--This assignment supports the NASA Tomographic Experiment using Radioactive Recombinative Ionospheric EUV and Radio Sources - TERRIERS.

**S737**--This assignment supports the Hughes Communications Galaxy, Inc. GALAXY VIII (I) Satellite.

**S738**--This assignment supports the NASA Mars Global Surveyor.

**S739**--This assignment supports the NASA Transition Region and Coronal Explorer satellite system (TRACE).

**S740**--This assignment supports the NASA Wide-Field Infrared Explorer satellite (WIRE).

**S741**--This assignment supports the NASA Lunar Prospector Satellite System.

**S742**--This assignment is for use by a U.S. Government earth station supporting a foreign space operation. The responsible Federal agency has waived the NTIA spectrum certification process for the earth station operation. Therefore, although this operation may be in accordance with the National Table of Frequency Allocations, it must be conducted on an unprotected, non-interference basis to those U. S. Operations that are in conformity with the National Table of Frequency Allocations.

**S743**--This assignment shall expire upon termination of the satellite system EXPRESS (Russia).

**S744**--This assignment shall expire upon completion of Space Project MIGHTYSAT.

**S745**--This assignment is in support of a Government Space Program.

**S746**--This assignment supports the NASA Earth Observing System AM (EOS-AM).

**S747**--This assignment is for a receive only earth station for the IRS-1B Satellite.

**S748**--This assignment is for a receive only earth station for the IRS-1C Satellite.

**S749**--This assignment is for a receive only earth station for the ERS-2 Satellite.

**S750**--This assignment is in support of the Space Test Experiment Platform (STEP 0) program.

**S751**--This assignment supports the Orbital Sciences Corp. BATSAT MicroStar Spacecraft.

**S752**--This assignment supports the NASA Gravity Probe-B satellite system.

**S753**--This assignment supports the NASA International Space Station (ISS) VHF Voice Communications Link (IVVCL).

**S754**--This assignment is for a receive only earth station in the band 8025-8400 MHz for the Spot 1 and Spot 2 Satellite.

**S755**--This assignment supports the NASA SIMPLSAT Satellite System.

**S756**--This assignment supports the NASA Technology Experiment Augmenting Spartan (TEXAS).

**S757**--This assignment supports the NASA SPRINT Communications System (SCS).

**S758**--This assignment is in support of the PANAMSAT PAS-6 and PAS-7 Satellites.

**S759**--This assignment supports the NASA Thermosphere-Ionosphere-Mesosphere-Energetics-Dynamics (Timed) Satellite System.

**S760**--This assignment supports the Ikonos-1 and Ikonos-2 Satellite System.

**S761**--This assignment supports the NASA Imager for Magnetopause-to-Aurora Global Exploration (IMAGE).

**S762**--This assignment supports the ICO Medium Orbit Satellite Constellation.

**S763**--This assignment is in support of a government program using a commercial contractor operating in the non-government space band. The license to operate is held by a non- government entity in support of this program. This record is incorporated into the Government Master File for spectrum analysis, and information purposes.

**S764**--This assignment supports the TELEDESIC Satellite System.

**S765**--This assignment supports the GLOBALSTAR Satellite System.

**S766**--This assignment supports the NASA MARS Surveyor Lander '98 (MSL '98) Satellite System.

**S767**--This assignment supports the Orbview Space System.

**S768**--This assignment supports the NASA Microwave Anisotropy (MAP) Satellite System.

**S769**--This assignment is for a receive only earth station for the IRS-1D Satellite.

**S770**--This assignment is for an experiment using the Canadian MSAT Satellite System.

**S771**--This assignment supports the NASA Quikscat Satellite System.

**S772**--This assignment supports the NASA Lyman-Far Ultraviolet Spectroscopic Explorer (FUSE) Satellite System.

**S773**--This assignment supports the NASA X-38 201 Vehicle Communications System.

**S774**--This assignment supports the NASA Deep Space-1 (DS-1) Communications System.

**S775**--This assignment supports the NASA Active Cavity Radiometer Irradiance Monitor Satellite System (ACRIMSAT).

**S776**--This assignment supports the NASA Proximity Operations Communications Systems (POCS).

**S777**--This assignment supports the NASA MARS Climate Orbiter Satellite System.

**S778**--This assignment supports the NASA Stardust Satellite System.

**S779**—This assignment supports the NASA Vegetation Canopy Lidar (VCL) Communications System.

**S780**—This assignment supports the NASA Earth Orbiter-1 (EO-1) Communications System.

**S781**—This assignment supports the NASA USA Genesis Communications System.

**S782**—This assignment supports the NASA Earth Observation System-PM (EOS-PM) Communications System.

**S783**—This assignment is in support of the NAHUEL-1A Satellite System (Argentina).

**S784**— This assignment supports the NASA Cooperative Astrophysics and Technology Satellite (CatSat) Communications System.

**S785**—This assignment supports the NASA High Energy Solar Spectroscopic Imager (HESSI) Communications System.

**S786**—This assignment supports the NASA Galaxy Evolution Explorer (GALEX) Satellite Communications System.

**S787**—This assignment supports the NASA Ice, Cloud, and Land Elevation (ICESAT) Satellite Communications System.

**S788**—This assignment supports the NASA Space Infrared Telescope Facility (SIRTF) Communications System.

**S789**—This assignment supports the FCC Galaxy-11 Satellite System.

**S790**—This assignment supports the NASA X-38 201 Vehicle Communications System.

**S791**—This assignment supports the NASA Mars Surveyor 2001 Orbiter Communications System.

**S792**—This assignment supports the NASA Wire-less Video System (WVS) Communications System.

#### **Endnotes for Annex A-F**

<sup>1</sup> Applies to SSB transmissions.

<sup>2</sup> Applies to two or more independent sideband channels.





## ANNEX G - LIST OF DOD-APPROVED SYSTEM IDENTIFIERS

DoD has approved the following list of data entries for use in Data Item 705.

ADMINISTRATIVE  
ADMINISTRATIVE,BASE OPERATIONS  
ADMINISTRATIVE,CEREMONIAL  
ADMINISTRATIVE,GIANT VOICE  
ADMINISTRATIVE,HARBOR-PORT-OPS  
ADMINISTRATIVE,INTEL  
ADMINISTRATIVE,INVENTORY CONTROL  
ADMINISTRATIVE,LOGISTICS  
ADMINISTRATIVE,MARITIME DEFENSE  
ADMINISTRATIVE,NAVY EXCHANGE NET  
ADMINISTRATIVE,PILOT TO DISPATCH  
ADMINISTRATIVE,POST OPERATIONS  
ADMINISTRATIVE,RAMP CONTROL  
ADMINISTRATIVE,SAFETY  
ADMINISTRATIVE,SPECIAL OPERATIONS  
ADMINISTRATIVE,SUPPLY  
ADMINISTRATIVE,WAREHOUSE RETRIEVAL

AIR TRAFFIC CONTROL  
AIR TRAFFIC CONTROL,APPROACH  
AIR TRAFFIC CONTROL,ATIS  
AIR TRAFFIC CONTROL,DBRITE  
AIR TRAFFIC CONTROL,DEPARTURE  
AIR TRAFFIC CONTROL,ENROUTE  
AIR TRAFFIC CONTROL,GROUND  
AIR TRAFFIC CONTROL,LOCAL

BACKBONE  
BACKBONE,AFSAT  
BACKBONE,CIVIL WORKS  
BACKBONE,DSCS  
BACKBONE,DSP  
BACKBONE,MILSTAR

COMMANDER  
COMMANDER,(Any legal character or  
number)  
COMMANDER,AIR DEFENSE  
COMMANDER,AWACS  
COMMANDER,C2  
COMMANDER,COMMANDO ESCORT

COMMANDER,COMMPAN113  
COMMANDER,GIANT TALK  
COMMANDER,GLOBAL

COMMANDER,GWEN  
COMMANDER,HICOM  
COMMANDER,MISSION RADIO  
COMMANDER,OR  
COMMANDER,PACCS  
COMMANDER,REGENCY  
COMMANDER,SAS  
COMMANDER,SQUADRON COMMON

CONSTRUCTION  
CONSTRUCTION,CIVIL WORKS  
CONSTRUCTION,INSPECTION  
CONSTRUCTION,MAINTENANCE  
CONSTRUCTION,PRIME BEEF  
CONSTRUCTION,SEABEES  
CONSTRUCTION,SHIPYARD

CONTINGENCY  
CONTINGENCY,BARRIER  
CONTINGENCY,DA COOP  
CONTINGENCY,DSCS  
CONTINGENCY,DISASTER PREPAREDNESS  
CONTINGENCY,EOC  
CONTINGENCY,EOD  
CONTINGENCY,GWEN  
CONTINGENCY,MOBILITY  
CONTINGENCY,MOBILIZATION  
CONTINGENCY,NCS  
CONTINGENCY,NEMVAC  
CONTINGENCY,NTCN  
CONTINGENCY,SAR  
CONTINGENCY,FEMA

EXECUTIVE  
EXECUTIVE, (Any legal character  
or number)  
EXECUTIVE,ERCS  
EXECUTIVE,MYSTIC STAR

EXECUTIVE,SITFA  
EXECUTIVE,WWABNCP

FIRE  
FIRE,ALARM  
FIRE,CRASH

FIRE,EMS  
FIRE,HAZMAT  
FIRE,MUTUAL AID  
FIRE,TRAINING

HYDROLOGIC

INSPECTION  
INSPECTION,ATC  
INSPECTION,BEET  
INSPECTION,IG

LAW ENFORCEMENT  
LAW ENFORCEMENT,ALARM  
LAW ENFORCEMENT,CB EMERGENCY  
LAW ENFORCEMENT,CID  
LAW ENFORCEMENT,MUNITIONS  
LAW ENFORCEMENT,MUTUAL AID  
LAW ENFORCEMENT,NISO  
LAW ENFORCEMENT,NUCLEAR  
LAW ENFORCEMENT,OSI  
LAW ENFORCEMENT,SECURITY  
LAW ENFORCEMENT,SPEED GUN  
LAW ENFORCEMENT,TRAFFIC CONTROL

MAINTENANCE  
MAINTENANCE,ACMI  
MAINTENANCE,AIRCRAFT  
MAINTENANCE,CONTROL  
MAINTENANCE,CIVIL ENGINEERS  
MAINTENANCE,EQUIPMENT CHECKS  
MAINTENANCE,INDUSTRIAL CONTROLS  
MAINTENANCE,MINUTEMAN MISSILE  
MAINTENANCE,MUNITIONS  
MAINTENANCE,NAVAIDS,COMM  
MAINTENANCE,PILOT TO MAINTENANCE  
MAINTENANCE,PUBLIC WORKS  
MAINTENANCE,RIDS  
MAINTENANCE,SCANS  
MAINTENANCE,SHIP OVERHAUL  
MAINTENANCE,SNOW REMOVAL  
MAINTENANCE,TEST-CALIBRATION

MEDICAL  
MEDICAL,AMBULANCE  
MEDICAL,EMS

MEDICAL,MUTUAL AID

MISC  
MISC,AERONAUTICAL  
MISC,AFPBS  
MISC,AIR GROUND ADVISORY  
MISC,AIR-GROUND-AIR  
MISC,BATTLEFIELD SURVEILLANCE  
MISC,BROADCAST

MISC,DISTRESS AND SAFETY  
MISC,EOD  
MISC,FLEET SUPPORT  
MISC,FLIGHT SUPPORT  
MISC,HF COAST TELEPHONY  
MISC,HF COAST WIDEBAND  
MISC,HF NBDP  
MISC,HF PACKET  
MISC,HF SHIP-SHORE-SHIP  
MISC,HF SHIP WIDEBAND  
MISC,HF TELEPHONY DUPLEX  
MISC,HF TELEPHONY SIMPLEX  
MISC,IFF  
MISC,LOCKS AND DAMS  
MISC,MARITIME  
MISC,MICROWAVE  
MISC,NASA  
MISC,RADAR  
MISC,RDTE SIMULATOR  
MISC,RDTE  
MISC,SMECS  
MISC,SPACE  
MISC,SPACE SHUTTLE  
MISC,TELEMETRY  
MISC,WEAPONS

MOBILE TELEPHONE

NATURAL RESOURCES  
NATURAL RESOURCES, GAME WARDEN

NAVAIDS  
NAVAIDS,ASR  
NAVAIDS,BUOYS  
NAVAIDS,GCA  
NAVAIDS,GLIDESLOPE  
NAVAIDS,GPS  
NAVAIDS,IFF-SIF  
NAVAIDS,LOCALIZER  
NAVAIDS,LORANC  
NAVAIDS,MARKER BEACON  
NAVAIDS,RADAR ARTCC  
NAVAIDS,SONOBUOY

NAVAIDS,TACAN  
NAVAIDS,VOR  
NAVAIDS,VORTAC  
NAVAIDS,PAR  
NAVAIDS CONTROLS  
NAVAIDS CONTROLS,RUNWAY LIGHTS

PAGING  
PAGING,ALERT  
PAGING,CENTRAL BASE  
PAGING,MEDICAL

RDTE SUPPORT  
 RDTE SUPPORT,(Any legal character  
 or number)  
  
 SEISMIC  
 SEISMIC,STUDIES  
  
 SMR  
  
 SPECIAL COURIER  
 SPECIAL PROJECTS  
 SPECIAL PROJECTS,ASCOMM  
 SPECIAL PROJECTS,ASW  
 SPECIAL PROJECTS,BLUE ANGELS  
 SPECIAL PROJECTS,CAP  
 SPECIAL PROJECTS,DATA LINK  
 SPECIAL PROJECTS,EATS  
 SPECIAL PROJECTS,EOD  
 SPECIAL PROJECTS,FORACS  
 SPECIAL PROJECTS,GCCS  
 SPECIAL PROJECTS,GYC8  
 SPECIAL PROJECTS,HAVE QUICK  
 SPECIAL PROJECTS,HF/ALE  
 SPECIAL PROJECTS,INTEL  
 SPECIAL PROJECTS,JTIDS  
 SPECIAL PROJECTS,LINK 11  
 SPECIAL PROJECTS,LINK 16  
 SPECIAL PROJECTS,LOW POWER  
 SPECIAL PROJECTS,MARS  
 SPECIAL PROJECTS,MCM  
 SPECIAL PROJECTS,METEOR BURST  
 SPECIAL PROJECTS,NISTARS  
 SPECIAL PROJECTS,NTDS  
 SPECIAL PROJECTS,ORDCOMM  
 SPECIAL PROJECTS,OTH-B  
 SPECIAL PROJECTS,ROTHR  
 SPECIAL PROJECTS,SHARES  
 SPECIAL PROJECTS,SOF  
 SPECIAL PROJECTS,SOUNDER  
  
 SPECIAL PROJECTS,SURTASS  
 SPECIAL PROJECTS,TACTS  
 SPECIAL PROJECTS,TEMPEST  
 SPECIAL PROJECTS,THUNDERBIRDS  
 SPECIAL PROJECTS,TIS  
  
 SURVEY  
 SURVEY,GEODETIC  
 SURVEY,HAZMAT  
 SURVEY,MAPPING  
  
 TELECOMMAND  
 TELECOMMAND,BARRIER  
 TELECOMMAND,COMMAND DESTRUCT  
 TELECOMMAND,DRONE

TELECOMMAND,TARGET  
 TELECOMMAND,TOSS  
 TELECOMMAND,UAV  
  
 TEST RANGE  
 TEST RANGE,CINETHEODOLITE  
 TEST RANGE,CONTROL  
 TEST RANGE,SAFETY  
 TEST RANGE,SIMULATOR  
 TEST RANGE,TARGET SCORING  
 TEST RANGE,TIMING  
  
 TRAINING  
 TRAINING,ACMI  
 TRAINING,ENGINEERING  
 TRAINING,EW  
 TRAINING,EXERCISE  
 TRAINING,MICROWAVE  
 TRAINING,MSE  
 TRAINING,RADIO RELAY  
 TRAINING,SINCGARS  
 TRAINING,STRC  
 TRAINING,TACCS  
 TRAINING,TROPO  
  
 TRANSPORTATION,(Any legal character or number)  
 TRUNKING  
  
 UTILITIES  
 UTILITIES,ENERGY CONTROL  
 UTILITIES,TELEPHONE  
 UTILITIES,WATER  
  
 WEATHER  
 WEATHER,METEOROLOGICAL  
 WEATHER,PILOT TO METRO  
 WEATHER,RADAR  
  
 WEATHER,RAWS  
 WEATHER,RECON  
  
 WIRELESS MIKE

## ANNEX H

### STANDARDIZED STATUS CODES USED FOR STATUS TRACKING

1. The following standard status codes are used in SFAF Data Item 903 to track the status of frequency assignment proposals within the FRRS transaction processing system. Additional local status codes can be assigned by any system manager. These codes will be phased out when the DCFs and JSMSw are replaced by Spectrum XXI.

| STATUS<br>CODE | DESCRIPTION  | SET BY |
|----------------|--|--------|
| ACT            | The proposal has been transferred to another DCF for coordination with other military services.  | System |
| ASN            | The proposal is approved, but last minute changes can be made to the record before setting the status to TRN.                                  | User   |
| ATE            | The proposal has been successfully transferred to the JSC.   | System |
| COR            | The proposal is being held locally while some form of coordination is being conducted.   | User   |
| DUP            | The proposal has been successfully download from the JSC CCF to the remote DCF MicroVAX site to reflect the decisions at the IRAC/FAS meeting. | System |
| ERR            | The proposal with parsing errors has been received at the local site.  | System |
| FAS            | The validated proposal is ready for review by the agency's FAS representative (applies only to MILDEPs).                                       | User   |
| INC            | The proposal is at NTIA and is being voted upon by other government agencies.  | System |
| NTIA           | The JSC has sent the proposal to NTIA.   | System |
| PCM            | The proposal has been downloaded to a PC for modification.<br>System   |        |
| REC            | The proposal has been received at the local site.  | System |
| REJ            | The proposal has been withdrawn from NTIA by the responsible agency.   | System |

#### Status

| <b>Code</b> | <b>Description</b>   | <b>Set By</b> |
|-------------|--|---------------|
| REV         | The Proposal has been revised or edited.   | User          |
| RFN         | The proposal is being converted by the JSC to the GMF format so it can be sent to NTIA.  | System        |
| RTA         | The proposal was sent to the JSC and returned to the submitting agency because of errors serious enough to be rejected either by the JSC or by NTIA. | System        |
| STA         | Short term assignment.   | User          |
| TAB         | The proposal has been tabled by NTIA or another government agency and is currently awaiting MILDEP FAS representative action.                        | System        |
| TRN         | The validated proposal is ready for transfer to the JSC or to another DCF.   | User          |

## ANNEX I – LIST OF DoD AGENCY SPECIFIC FUNCTION IDENTIFIERS

DoD has approved the following list of function identifiers for use in data items 511, 512, and 513. Data entries are always required in data items 511 and 512. Data Item 513 will be filled whenever an applicable data entry exists or at the discretion of the MILDEP or CINC approval authority. Only the data shown in bold will be entered into computer databases. Non bold lower case data in parenthesis is only shown for information purposes to assist frequency managers in selecting the correct data entry. For example,

511. AIR OPERATIONS

512. NAVAIDS

513. ETCAS

Immediately following the table is a list containing the definitions for all the data entries contained within the table.

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
| AIR OPERATIONS                                 | AIR/AIR COMMUNICATIONS                                |   |
|  |   | AIR DEFENSE/INTERCEPT                             |
|  |   | BLUE ANGELS                                       |
|  |   | EXERCISE  |
|  |   | HAVE QUICK  |
|  |   | INSTRUCTOR/STUDENT TRAINING                       |
|  |   | INTERPLANE  |
|  |   | PILOT-TO-PILOT                                    |
|  |   | REFUELING   |
|  |   | THUNDERBIRDS                                      |
|  | AIR/GROUND/AIR COMMUNICATIONS                         |   |
|  |   | AIR DEFENSE/INTERCEPT                             |
|  |   | ATIS (Auto Terminal Information Service)          |
|  |   | BROADCAST   |
|  |   | COMMAND POST/CENTER                               |
|  |   | EXERCISE  |
|  |   | GLOBAL  |
|  |   | GLOBAL ALE (Automatic Link Establishment)         |
|  |   | GLOBAL DISCRETE                                   |
|  |   | GOLDEN KNIGHTS                                    |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
|  |   | HAVE QUICK  |
|  |   | LINK 11   |
|  |   | PILOT-TO-DISPATCHER                               |
|  |   | PILOT-TO-METRO                                    |
|  |   | SQUADRON/WING COMMON                              |
|  |   | SOF (SUPERVISOR OF FLYING)                        |
|  |   | TRAINING  |
|  | AIR TRAFFIC CONTROL                                   |   |
|  |   | APPROACH CONTROL                                  |
|  |   | ATIS (Auto Terminal Information Service)          |
|  |   | CLEARANCE DELIVERY                                |
|  |   | DBRITE  |
|  |   | DEPARTURE CONTROL                                 |
|  |   | GROUND CONTROL                                    |
|  |   | LOCAL CONTROL                                     |
|  |   | TRAINING  |
|  |   | EXERCISE  |
|  | EXECUTIVE   |   |
|  |   | AIRBORNE COMMAND CENTER                           |
|  |   | AIR FORCE ONE                                     |
|  |   | CINC/GENERAL OFFICER SUPPORT                      |
|  |   | ERCS (Emergency Rocket Communications Sys)        |
|  |   | MYSTIC STAR                                       |
|  |   | NAOC (National Airborne Operations Center)        |
|  |   | NORAD   |
|  |   | WHCA (White House Communications Agency)          |
|  | EXPERIMENTAL  |   |
|  | NAVAIDS   |   |
|  |   | ETCAS (Enhanced Traffic Collision Avoid System)   |
|  |   | TCAS (Traffic Collision Avoidance System)         |
|  |   | WEATHER RADAR                                     |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)             |
|--|---|---|
|  | <b>TELECOMMAND</b>                                    |   |
|  |   | <b>ARTS</b> (Automated Remote Tracking System) (Telemetry)    |
|  |   | <b>COMMAND DESTRUCT/TERMINATION</b>                           |
|  |   | <b>MICROWAVE DATA LINK</b>                                    |
|  |   | <b>SGLS</b> (Space Ground Link Subsystem)                     |
|  |   | <b>TMGS</b> (Transportable Mobile Ground Subsystem)           |
|  |   | <b>TOSS</b> (TV Ordinance Scoring System)                     |
|  | <b>UAV</b> (Unmanned Aerial Vehicle)                  |   |
|  | <b>TRAINING</b>                                       |   |
|  | <b>WEAPON SYSTEMS</b>                                 |   |
|  |   | <b>BMEWS</b> (Ballistic Missile Early Warning System)         |
|  |   | <b>ICBM</b>   |
|  |   | <b>JSTARS</b>   |
|  |   | <b>JTIDS</b>  |
| <b>GROUND OPERATIONS</b>                       | <b>AIR DEFENSE</b>                                    |   |
|  |   | <b>ARTILLERY</b>  |
|  |   | <b>AVENGER-STC</b>  |
|  |   | <b>FAADC2</b> (Forward Area Air Defense, Command and Control) |
|  |   | <b>LINEBACKER</b>   |
|  |   | <b>SENTINEL</b> (AN/MPQ-64 Surveillance Radar)                |
|  | <b>ARMY AVIATION</b>                                  |   |
|  |   | <b>LONGBOW</b> (Apache Helicopter)                            |
|  | <b>ARMY ENGINEERS</b>                                 |   |
|  |   | <b>GRIZZLY</b> (M1 Bleacher MineSweeper)                      |
|  |   | <b>M93A1 FOX</b>  |
|  |   | <b>WOLVERINE</b> (Assault Bridge)                             |
|  | <b>ARTILLERY</b>                                      |   |
|  |   | <b>AQF</b> (Advanced Quick Fix)                               |



| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)   |
|--|---|---|
|  |   | <b>LLDR</b> (Lightweight Laser Designator Rangefinder)  |
|  |   | <b>MLRS</b> (Multiple Launch Rocket System)   |
|  | <b>BATTLE COMMAND</b>                                 |   |
|  |   | <b>A2C2S</b> (Army Airborne Command & Control System)   |
|  |   | <b>COMBAT NET RADIO</b>   |
|  |   | <b>CTT</b> (Commander's Tactical Terminal)  |
|  |   | <b>EPLRS</b> (Enhanced Position Location Reporting System)  |
|  |   | <b>GCCS-A</b> (Global Command & Control System-Army)  |
|  |   | <b>LANDWARRIER</b>  |
|  |   | <b>NTDR</b> (Near Term Digital Radio)   |
|  |   | <b>SCAMP</b> (Single Channel Anti-Jam Manportable Terminal)   |
|  |   | <b>SINCGARS</b> (Single Channel Ground and Airborne Radio System)                                       |
|  |   | <b>SINCGARS-ASIP</b> (Single Channel Ground and Airborne Radio System-Advanced System Improvement Plan) |
|  |   | <b>WIN-T</b> (Warfighter Information Network-Tactical)  |
|  | <b>CAVALRY</b>  |   |
|  |   | <b>STRIKER II</b> (Advanced Fire Support/Scout/Surveillance System)                                     |
|  | <b>CLOSE AIR SUPPORT (CAS)</b>                        |   |
|  |   | <b>AIR FORCE CAS</b>  |
|  |   | <b>ARMY CAS</b>   |
|  |   | <b>NAVY CAS</b>   |
|  | <b>COMBAT CONTROL TEAM</b>                            |   |
|  | <b>COMMAND POST</b>                                   |   |
|  | <b>ELECTRONIC WARFARE</b>                             |   |
|  |   | <b>ACS</b> (Aerial Common Sensor)   |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)                        |
|--|---|--|
|  |   | <b>AHFEWS</b> (Army HF EW System)  |
|  |   | <b>ARL</b> (Aerial Reconnaissance-Low)                                   |
|  |   | <b>IEWCS</b> (Intelligence Electronic Warfare Common Sensor)             |
|  |   | <b>LMRDFS</b> (Light Man-portable Radio Direction Finding System)        |
|  |   | <b>TACJAM</b> (Tactical Communications Jamming System)                   |
|  |   | <b>TEAMMATE</b>  |
|  |   | <b>TRACKWOLF</b>   |
|  | <b>FIRE SUPPORT</b>                                   |  |
|  |   | <b>AFATDS</b>  |
|  |   | <b>ARTILLERY</b>   |
|  |   | <b>CLOSE AIR SUPPORT</b> (CAS)   |
|  |   | <b>MFCS</b> (Mortar Fire control System)                                 |
|  |   | <b>NAVAL GUNFIRE SUPPORT</b>   |
|  | <b>FORWARD AIR CONTROL POST</b>                       |  |
|  | <b>GROUND INTERDICTION</b>                            |  |
|  |   | <b>CIWS</b> (Close-In Weapons System)                                    |
|  |   | <b>GBCS-L</b> (Ground Based Common Sensor-Light)                         |
|  |   | <b>GSR</b> (Ground Surveillance Radar)                                   |
|  |   | <b>I-REMBASS</b> (Improved-Remotely Monitored Battlefield Sensor System) |
|  |   | <b>TRAILBLAZER</b> (Ground Based Communications Intelligence System)     |
|  | <b>INFANTRY</b>                                       |  |
|  |   | <b>AIR ASSAULT INFANTRY</b>  |
|  |   | <b>AIRBORNE INFANTRY</b>   |
|  |   | <b>LIGHT INFANTRY</b>  |
|  |   | <b>MECHANIZED INFANTRY</b>   |
|  |   | <b>RANGER UNITS</b>  |
|  | <b>INTELLIGENCE</b>                                   |  |
|  |   | <b>ASAS</b> (All Source Analysis System)                                 |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
|  | LOGISTICS   |   |
|  |   | AMPS (Air Movement Planning System)               |
|  |   | CSSCS (Combat Service Support Control System)     |
|  | TACCS   |   |
|  | TRAINING  |   |
| SEA OPERATIONS                                 | ASW (ANTI-SUBMARINE WARFARE)                          |   |
|  | ELECTRONIC WARFARE                                    |   |
|  | FLEET SUPPORT   |   |
|  | FORACS  |   |
|  | INTELLIGENCE  |   |
|  |   | TARGET  |
|  | NAVAL GUNFIRE SUPPORT                                 |   |
|  | RESUPPLY  |   |
|  | SEARCH AND RESCUE                                     |   |
|  | SHIP/AIR OPERATIONS                                   |   |
|  |   | HELICOPTER  |
|  |   | LINK 4  |
|  | SHIP/SHIP   |   |
|  |   | AEGIS   |
|  |   | DRONE CONTROL                                     |
|  |   | HELICOPTER  |
|  |   | LINK 4  |
|  |   | MOMS (Man on the Move System)                     |
|  | SHIP/ShORE OPERATIONS                                 |   |
|  |   | HARBOR-PORT OPERATIONS                            |
|  | TRAINING  |   |
| SPACE OPERATIONS                               | EXPERIMENTAL  |   |
|  | GBS (GLOBAL BROADCAST SYSTEM)                         |   |
|  | GPS (GLOBAL POSITIONING SYSTEM)                       |   |
|  | METEOROLOGICAL  |   |
|  |   | DMSP (Defense Meteorological Satellite Program)   |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)  |
|--|---|--|
|  |   | <b>SAWDS</b> (SATELLITE AUTOMATED WX DIST SYS)   |
|  | <b>NASA</b>   | <b>SHUTTLE</b>   |
| <b>RANGE OPERATIONS</b>                        | <b>EXPERIMENTAL</b>                                   |  |
|  | <b>FLIGHT TEST</b>                                    |  |
|  | <b>RANGE CONTROL</b>                                  |  |
|  |   | <b>OCCS SUPPORT</b>  |
|  |   | <b>RDMS</b> (Range Data Management Subsystem)  |
|  |   | <b>TELEMETRY</b>   |
|  |   | <b>TRUNKING</b>  |
|  | <b>SIMULATOR</b> (S371 required)                      |  |
|  | <b>TEST RANGE</b>                                     |  |
|  |   | <b>TARGET</b>  |
|  |   | <b>TARGET SCORING</b>  |
|  |   | <b>TEST RANGE TIMING</b>   |
|  |   | <b>TCRS</b> (Target Control System)  |
|  | <b>TRAINING</b>                                       |  |
|  |   | <b>MITT/DTES</b> (Mobile Integrated Tactical Terminal/Distributed Common Ground System Test and Evaluation Strategy) |
| <b>SURVEILLANCE/ RECONNAISSANCE</b>            | <b>AIR DEFENSE WARNING</b>                            |  |
|  |   | <b>AWACS</b> (Airborne Warning & Control Sys)  |
|  |   | <b>CARS</b> (Contingency Airborne Reconnaissance Sys)  |
|  |   | <b>GRCS</b> (Guardrail Common Sensor)  |
|  |   | <b>JSS</b> (JOINT SURVEILLANCE SYSTEM)   |
|  |   | <b>LONG RANGE RADAR</b>  |
|  |   | <b>OTHR/ROTHR</b> (Over-the-Horizon Radar)   |
|  |   | <b>PAVE PAWS</b>   |
|  | <b>EXPERIMENTAL</b>                                   |  |
|  | <b>TRAINING</b>                                       |  |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)    |
|--|---|--|
| SPECIAL OPERATIONS                             | AIR FORCE SPECIAL OPERATIONS                          |  |
|  |   | HAARP (ALASKA HF PROJECT)                            |
|  |   | PROJECT COTHEN                                       |
|  | EXPERIMENTAL  |  |
| C3 (Command, Control & Communications)         | COMMAND NET   |  |
|  |   | GLOBAL   |
|  |   | GLOBAL ALE (Automatic Link Establishment)            |
|  |   | GLOBAL DISCRETE                                      |
|  |   | HICOM (High Command)                                 |
|  | DATA LINK   |  |
|  |   | LINK 11  |
|  |   | LINK 16  |
|  | FIXED COMMUNICATIONS                                  |  |
|  |   | IONOSPHERIC SOUNDER                                  |
|  |   | ISYSCON (Integrated System Control)                  |
|  |   | MARS (Military Affiliated Radio System)              |
|  |   | MICROWAVE  |
|  |   | MSE (Mobile Subscriber Equipment)                    |
|  |   | RADIO RELAY  |
|  |   | TACTS (Tactical Trunk Signaling)                     |
|  | SATELLITE COMMUNICATIONS                              |  |
|  |   | AFSATCOM   |
|  |   | DSCS   |
|  |   | FLTSATCOM  |
|  |   | GAPFILLER  |
|  |   | LEASAT   |
|  |   | MILSTAR  |
|  |   | SPITFIRE (SPITFIRE Manpack UHF SATCOM DAMA Terminal) |
|  |   | TROJAN SPIRIT  |
| SUSTAINING BASE OPERATIONS                     | ADMINISTRATIVE  |  |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
|  |   | AERO CLUB   |
|  |   | INSTALLATION PA SYSTEM (Giant Voice)              |
|  |   | INVENTORY/INVENTORY CONTROLS                      |
|  |   | MARS (Military Affiliate Radio System)            |
|  |   | SUPPLY AND LOGISTICS                              |
|  |   | TRAVELERS INFORMATION SYSTEM                      |
|  |   | UNLICENSED DEVICE                                 |
|  |   | WIRELESS LOCAL AREA NETWORK                       |
|  |   | WIRELESS MIKE                                     |
|  | CIVIL ENGINEERING                                     |   |
|  |   | CIVIL WORKS                                       |
|  |   | CONSTRUCTION                                      |
|  |   | INDUSTRIAL CONTROLS                               |
|  |   | PRIME BEEF  |
|  |   | PUBLIC WORKS                                      |
|  |   | SAFETY  |
|  |   | SEABEES   |
|  |   | RED HORSE   |
|  | COMMAND AND CONTROL                                   |   |
|  |   | BASE OPERATIONS                                   |
|  |   | COMMAND NET                                       |
|  |   | TACTS (Tactical Trunk Signaling)                  |
|  |   | TRUNKING  |
|  | EMERGENCY SERVICES                                    |   |
|  |   | DISASTER PLANNING                                 |
|  |   | EOD   |
|  |   | FEMA  |
|  |   | FIRE ALARM  |
|  |   | FIRE  |
|  |   | HAZMAT  |
|  |   | MEDICAL   |
|  |   | MEDICAL SYSTEMS                                   |
|  |   | PAGING  |
|  |   | SEARCH AND RESCUE                                 |
|  |   | WARNING SYSTEM                                    |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
|  | ENVIRONMENTAL   |   |
|  |   | HYDROLOGIC  |
|  |   | RESOURCES CONSERVATION                            |
|  |   | UTILITIES   |
|  |   | WILDLIFE PRESERVATION                             |
|  | EXPERIMENTAL  |   |
|  | LAW ENFORCEMENT                                       |   |
|  |   | ALARM SYSTEMS                                     |
|  |   | CRIMINAL INVESTIGATIVE SERVICE                    |
|  |   | DIS (DEFENSE INVESTIGATIVE SERVICE)               |
|  |   | MILITARY POLICE                                   |
|  |   | NCIS (NAVAL CRIMINAL INVESTIGATIVE SERVICE)       |
|  |   | OSI (OFFICE OF SPECIAL INVESTIGATIONS)            |
|  |   | SCOPE SHIELD                                      |
|  |   | SECURITY FORCE                                    |
|  |   | SHORE PATROL                                      |
|  |   | SPEED MEASUREMENT SYSTEMS                         |
|  |   | SURVEILLANCE SYSTEMS                              |
|  |   | TETHERED AEROSTAT RADAR                           |
|  |   | WEAPONS STORAGE PROTECTION                        |
|  | MAINTENANCE   |   |
|  |   | AIRCRAFT  |
|  |   | COMMUNICATIONS                                    |
|  |   | EQUIPMENT CHECKS                                  |
|  |   | MISSILE   |
|  |   | MUNITIONS   |
|  |   | POL   |
|  |   | RAMP CONTROL                                      |
|  |   | REMOTE BARRIER CONTROL SYSTEMS                    |
|  |   | REMOTE CONTROL CRANE                              |
|  |   | RUNWAY ICE DETECTION SYSTEMS                      |
|  |   | SNOW REMOVAL                                      |
|  |   | TEST AND CALIBRATION                              |
|  | METEOROLOGICAL  |   |
|  |   | ASOS (AUTO SURFACE OBSERVATION SYSTEM)            |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)             |
|--|---|---|
|  |   | WIND PROFILER   |
|  | NATURAL RESOURCES                                     |   |
|  |   | CONSERVATION  |
|  |   | WILDLIFE PRESERVATION   |
|  | NAVAIDS   |   |
|  |   | APPROACH CONTROL  |
|  |   | AIRPORT SURVEILLANCE RADAR                                    |
|  |   | AIR ROUTE SURVEILLANCE RADAR                                  |
|  |   | BEACON  |
|  |   | FLIGHT TEST   |
|  |   | ILS (instrument landing sys)                                  |
|  |   | IFF/SIF   |
|  |   | MLS (MICROWAVE LANDING SYSTEM)                                |
|  |   | PAR   |
|  |   | RADAR (Radio Detection and Ranging)                           |
|  |   | RADIOLOCATION   |
|  |   | RF TAGS (Radio Frequency Tags and Interrogators)              |
|  |   | TACAN   |
|  |   | VOR   |
|  |   | VORTAC  |
|  | NAVAIDS CONTROLS                                      |   |
|  |   | RUNWAY LIGHTING CONTROL                                       |
|  | SEISMIC   |   |
|  |   | TELEMETRY   |
|  | SUPPLY AND LOGISTICS                                  |   |
|  |   | MTS (Movement Tracking System)                                |
|  |   | NISTARS (Navy Integrated Storage Tracking & Retrieval System) |
|  |   | POL   |
|  |   | SHIPYARD  |
|  | TRAINING  |   |
|  | TRANSPORTATION  |   |
|  |   | MOTOR POOL  |
|  |   | TAXI  |
| DOMESTIC SUPPORT OPERATIONS                    | CAP (CIVIL AIR PATROL)                                |   |



| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513) |
|--|---|---|
|  |   | SEARCH AND RESCUE                                 |
|  | COMMUNITY ASSISTANCE                                  |   |
|  |   | COLOR/HONOR GUARD                                 |
|  |   | EDUCATION   |
|  |   | MUTUAL AID  |
|  |   | PUBLIC WORKS                                      |
|  |   | TRAINING  |
|  | CONTINGENCY   |   |
|  | DISASTER ASSISTANCE                                   |   |
|  |   | CONTAMINATION RESTORATION                         |
|  |   | ENVIRONMENTAL CLEANUP                             |
|  |   | FEMA  |
|  |   | HAZARDOUS MATERIAL RELEASE                        |
|  |   | SEARCH AND RESCUE                                 |
|  | LAW ENFORCEMENT                                       |   |
|  |   | ANTI-TERRORISM                                    |
|  |   | CIVIL DISTURBANCES                                |
|  |   | COUNTER DRUG                                      |
|  |   | EOD   |
|  |   | LOOTING PREVENTION                                |
|  |   | SPECIAL SECURITY OPERATIONS                       |
| OTHER OPERATIONS                               | DTSS (Digital Topographic Support System)             |   |
|  | EXERCISE  |   |
|  | EXPERIMENTAL  |   |
|  | ETRAC (Enhanced Tactical Radar Correlator)            |   |
|  | HYDROLOGIC  |   |
|  |   | LOCKS AND DAMS                                    |
|  | NATURAL RESOURCES                                     |   |
|  | RDTE SUPPORT  |   |
|  | SEISMIC   |   |
|  | SPECIAL COURIER                                       |   |
|  | SPECIAL PROJECTS                                      |   |
|  | SURVEY  |   |

| MAJOR FUNCTION IDENTIFIER (SFAF DATA ITEM 511) | INTERMEDIATE FUNCTION IDENTIFIER (SFAF DATA ITEM 512) | DETAILED FUNCTION IDENTIFIER (SFAF DATA ITEM 513)                |
|--|---|--|
|  | TEST AND MEASUREMENT                                  |  |
|  | WEATHER   |  |
|  |   | <b>AMSS</b> (Automatic Meteorological Sensor System)             |
|  |   | <b>GOES</b> (Geostationary Operational Environmental Satellites) |
|  |   | <b>IMETS</b> (Integrated Meteorological System)                  |
|  |   | <b>METEOROLOGICAL</b>  |

2. The definitions for the data entries contained in the above table are provided below:

**A2C2S** (Army Airborne Command & Control System)--Used in support of Army Airborne Command & Control System. <sup>5</sup>

**ACS** (Aerial Common Sensor)--Used in support of Intelligence and Electronic Warfare operations. <sup>5</sup>

**ADMINISTRATIVE**--Used for administrative management of personnel and/or material.

**AEGIS**--Used in support of AEGIS cruisers and destroyer weapon system operations.

**AERO CLUB**--Used in support of flight training and recreational flying clubs.

**AFATDS**--Used in support of Advanced Field Artillery Tactical Data System. <sup>5</sup>

**AFSATCOM**--Used for voice and/or data transmissions over the AFSATCOM system

**AHFEWS** (Army HF EW System)--Used in support of Intelligence and Electronic Warfare operations. <sup>5</sup>

**AIR ASSAULT INFANTRY**--Used to support those elements having significant anti-armor capability, strategic deployment ability and used by early-deploying forces in contingency operations against heavy forces. <sup>3</sup>

**AIR DEFENSE / INTERCEPT**--Used in support of fire finding exercises and operations. <sup>4</sup>

**AIR DEFENSE WARNING**--Used to identify the presence of hostile aircraft and or missiles. <sup>1</sup>

**AIR DEFENSE**--Used in supporting those defensive measures designed to destroy attacking enemy aircraft or missiles in the Earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack.

**AIR FORCE CAS**--Used in supporting CAS performed by Air Force aircraft. <sup>1</sup>

**AIR FORCE ONE**--Used in support of presidential aircraft operations.

**AIR FORCE SPECIAL OPERATIONS**--Used to support AFSOF units (special operations wings and groups, special tactics groups, and special operations weather teams) which provide aircraft and other support for a variety of SOF missions. <sup>3</sup>

**AIR OPERATIONS**--Used in supporting those functions which typically originate from the air and/or directly support the launching of, actual conduct of, and returning of airborne forces carrying out air operations whether over land or sea.

**AIR ROUTE SURVEILLANCE RADAR**--Used for radar's that monitor aircraft routes. <sup>2</sup>

**AIR TRAFFIC CONTROL**--Used for ground-air and air-ground voice communications dedicated to controlling the movement of aircraft.

**AIR/AIR COMMUNICATIONS**--Used in supporting voice and/or data transmissions between two airborne platforms. <sup>1</sup>

**AIR/GROUND/AIR COMMUNICATIONS**--Used supporting voice and/or data transmissions between airborne and ground-based platforms. <sup>1</sup>

**AIRBORNE COMMAND CENTER**--Used by airborne command post aircraft in support of the national authority or CINCS. <sup>2</sup>

**AIRBORNE INFANTRY**--Used in supporting those elements that have the greatest capability for large-scale force-projection operations, can rapidly deploy over great distances, and conduct combined arms, combat parachute, or air landing assaults to seize and secure vital objectives. <sup>3</sup>

**AIRCRAFT**--Used in supporting air operation under the jurisdiction of the Department of the Army. <sup>4</sup>

**AIRPORT SURVEILLANCE RADAR**--Used for general coverage radars that are located at airdromes.

**ALARM SYSTEMS**--Used for physical security (e.g., Sensors, Motion Detectors, Intrusion & Duress Alarms, Etc).

**AMPS** (Air Movement Planning System)--Used in support of Air movement operations. <sup>6</sup>

**AMSS** (Automatic Meteorological Sensor System)--Used in support of Intelligence and Electronic Warfare operations. <sup>5</sup>

**ANTI-TERRORISM**--Used in direct support of anti-terrorism.

**APPROACH CONTROL**--Used to provide a pilot conducting flight in accordance with instrument flight rules to commence an approach to an airport. <sup>1</sup>

**AQF** (Advanced Quick Fix)--Used in direct support of command and control, fire control nets, also used for ground surveillance, counter/mortar, and counter/battery operations. <sup>5</sup>

**ARL** (Aerial Reconnaissance-Low)--Used in support of Intelligence and Electronic Warfare operations. <sup>5</sup>

**ARMY AVIATION**--Used in supporting the operation of fixed- and rotary- winged aircraft maintained by the Army; includes but is not limited to attack helicopters, scout helicopters, and utility aircraft

**ARMY CAS**--Used in supporting CAS performed by Army aircraft. <sup>1</sup>

**ARMY ENGINEERS**--Used in supporting Engineers that perform construction, demolition, surveying, road and bridge building, and camouflage for the Army.<sup>4</sup>

**ARTILLERY**--Used to provide internal command, control, and communications to division and below for fire support.<sup>4</sup>

**ARTS** (Automated Remote Tracking System) (Telemetry)--Used in conjunction with the Space Ground Link Subsystem (SGLS).

**ASAS** (All Source Analysis System)--Used in support of Intelligence and Electronic Warfare operations.<sup>5</sup>

**ASOS** (Automated Surface Observation System)--Used for the collection of weather information used by civil and military aircraft.

**ASW** (Anti-Submarine Warfare)--Used in support of anti-submarine warfare operations.

**ATIS** (Auto Terminal Information Service)--Used for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

**AVENGER-STC**--Used in support of Short Range Air Search Radar (Stringer) operations.<sup>6</sup>

**AWACS**--Used in supporting special DoD airborne early warning aircraft that are equipped with search and height-finding radar and communications equipment for controlling weapon systems and performs the air surveillance and control mission.

**BASE OPERATIONS**--Used in supporting the operations of an Air Terminal; a facility on an airfield that functions as an air transportation hub and accommodates the loading and unloading of airlift aircraft and the in-transit processing of traffic.

**BATTLE COMMAND**--Used in support of command, control, and communications, tactical Internet, and Warfighter Information Network/Satellite networks.<sup>6</sup>

**BEACON**--Used in supporting Marker Beacons, Aeronautical Radio Beacons, and Radar Beacons for radio navigation land stations.<sup>4</sup>

**BLUE ANGELS**--Used in support of the Navy BLUE ANGELS demonstration team.

**BMEWS** (Ballistic Missile Early Warning System)--Used in DoD's electronic system for providing detection and early warning of attack by enemy inter-continental ballistic missiles.<sup>2</sup>

**BROADCAST**--Used to support broadcasting signal via Television and/or Radio service.<sup>6</sup>

**C3** (Command, Control, & Communications)--Used in supporting those strategic, inter-/intra-theater, or inter-/intra service C3 functions NOT already covered under another category.

**CAP** (Civil Air Patrol)--A private corporation that can be activated by HQ AF to conduct SAR operations.

**CARS** (Contingency Airborne Reconnaissance System)--Used in support of Airborne Reconnaissance operations.<sup>6</sup>

**CAVALRY**--Used in supporting those ground elements whose missions are reconnaissance, security, and economy of force; to find the enemy, to develop the situation and to provide the commander with reaction time and security.<sup>3</sup>

**CINC/GENERAL OFFICER SUPPORT**--Used in support of command and control, and logistics, supporting CINC/General Officers.<sup>6</sup>

**CIVIL DISTURBANCES**--Used to support civil disturbance operations.

**CIVIL ENGINEERING**--Used to support civil engineering activities.<sup>2</sup>

**CIVIL WORKS**--Used to support civil works activities.<sup>2</sup>

**CIWS** (Close-In Weapons System)--Used in support of weapon system.<sup>6</sup>

**CLEARANCE DELIVERY**--Used by air traffic control tower staff to communicate departure instructions to air crews while the aircraft are still on the ground.<sup>2</sup>

**CLOSE AIR SUPPORT** (CAS)--Used in supporting air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

**COLOR/HONOR GUARD**--Used to support military color guard/honor activities.

**COMBAT CONTROL TEAM**--Used in support of Intelligence, Maneuver, Fire Support, Air Defense, Mobility and Survivability, Logistics and Battle Command.<sup>5</sup>

**COMBAT NET RADIO**--Used for command and control using tactical radio system.<sup>6</sup>

**COMMAND AND CONTROL**--Used for command and control of military operations.<sup>2</sup>

**COMMAND DESTRICT/TERMINATION**--Used by range safety officers to destroy errant missiles or UAVs.

**COMMAND NET**--Used for command and control of the Commanders Net.<sup>6</sup>

**COMMAND POST/CENTER**--Used in supporting Command, Control, and Communications at the Command Post (CP).<sup>4</sup>

**COMMAND POST**--Used in supporting Command, Control, and Communications at the Command Post (CP).<sup>4</sup>

**COMMUNICATIONS**--Used in supporting the collection by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy or supporting the passing of data concerning the communications characteristics of a particular area.<sup>2</sup>

**COMMUNITY ASSISTANCE**--Used to support non-specific community assistance activities.

**CONSERVATION**--Used to support resources conservation activities.

**CONSTRUCTION**--Used to support construction activities (e.g. road building, erection of power lines, construction of dams or bridges, etc.).

**CONTAMINATION RESTORATION**--Used in performing decontamination operations.<sup>2</sup>

**CONTINGENCY**--Used only during unusual situations (e.g. civil disturbances, communications outages, natural disasters, etc.), and kept in service only for the duration of the contingency.

**COUNTER-DRUG**--Used in direct support of counter drug operations.

**CRIMINAL INVESTIGATIVE SERVICE**--Used in support of CID operations.<sup>6</sup>

**CSSCS** (Combat Service Support Control System)--Used by computer software system designed to assist commanders in the planning of Logistics operations.<sup>5</sup>

**CTT** (Commander's Tactical Terminal)--Used to support Command Post operations.

**DATA LINK**--Used in support of the operation of a data link.

**DBRITE** (Digital Bright Radar Indicator Tower Equipment)--Used for DBRITE operations.<sup>6</sup>

**DEPARTURE CONTROL**--Used in controlling aircraft departing from airdromes until they are turned over to air route controllers or go on visual flight rules.<sup>2</sup>

**DIS** (Defense Investigative Service)--Used by DIS organizations.

**DISASTER ASSISTANCE**--Used to support non-specific disaster assistance operations.

**DISASTER PLANNING**--Used in direct support of disaster operations.<sup>6</sup>

**DMSP** (Defense Meteorological Satellite Program)--Used in direct support of the Defense Meteorological Satellite Program.<sup>6</sup>

**DOMESTIC SUPPORT OPERATIONS**--Used for various types of military support provided to Federal, state, and local agencies in the areas of disaster assistance, environmental assistance, law enforcement, and community assistance.

**DRONE CONTROL**--Used in direct support of drone control operations.

**DSCS** (Defense Satellite Communication System)--Used for voice and/or data transmissions over the Defense Satellite Communication System.

**DTSS** (Digital Topographic Support System)--Used in direct support of DTSS operations.

**EDUCATION**--Used for military education activities.

**ELECTRONIC WARFARE**--Used in supporting the collection by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy or supporting the passing of data concerning the electronic characteristics of a particular area.<sup>2</sup>

**EMERGENCY SERVICES**--Used in support of non-specific emergency services.<sup>2</sup>

**ENVIRONMENTAL CLEANUP**--Used to support environmental cleanup operations.<sup>2</sup>

**ENVIRONMENTAL**--Used to support environmental controls, surveys, and research operations.<sup>5</sup>

**EOD** (Emergency Ordinance Disposal)--Used in supporting EOD during destruction or demolition operations.<sup>4</sup> This includes EOD robotic devices.

**EPLRS** (Enhanced Position Location Reporting System)--Used in support of EPLRS system.<sup>5</sup>

**EQUIPMENT CHECKS**--Used to support equipment checks made prior to commencing normal operations.

**ERCS** (Emergency Rocket Communications Systems)--Used to support the Emergency Rocket Communication System or ECM Resistant Communications System.<sup>4</sup>

**ETCAS** (Enhanced Traffic Collision Avoidance System)--Used by aircraft equipped with the ETCAS equipment.

**ETRAC** (Enhanced Tactical Radar Correlator)--Used to support tactical Radar operations.<sup>2</sup>

**EXECUTIVE**--Used by the top echelon leadership of a government agency (e.g. normally used at department level and above where strategic policy is formulated).

**EXERCISE**--Used in supporting a military maneuver or simulated wartime operation involving planning, preparation, and execution.

**EXPERIMENTAL**--Used in supporting activities that require an experimental station class.

**FAADC2** (Forward Area Air Defense, Command and Control)--Used for forward air defense operations.

**FEMA** (Federal Emergency Mgt Agency)--Used to support FEMA (Federal Emergency Mgt Agency) operations.

**FIRE ALARM**--Used in support of emergency fire-alarm systems.

**FIRE SUPPORT**--Used to support artillery in support of infantry, armored, airborne, and airborne mobile operations.

**FIRE**--Used to notify the presence of a fire, or to direct, control, or coordinate the operations of fire response vehicles, equipment, and personnel during fire suppression or fire prevention activities.

**FIXED COMMUNICATIONS**--Used to support fixed point to point communications links.

**FLEET SUPPORT**--Used to support fleet units/shore facilities.

**FLIGHT TEST**--Used to support flight test operations.

**FLTSATCOM** (Fleet Satellite Communications)--Used for voice and/or data transmissions over the FLTSATCOM system.

**FORACS** (Fleet Operational Readiness Accuracy Check Site)--Used to support Fleet Operational Readiness Sites.

**FORWARD AIR CONTROL POST**--Used in supporting a highly mobile USAF tactical air control system radar facility subordinate to the control and reporting center and or control post used to extend radar coverage and control in the forward combat area.<sup>3</sup>

**GAPFILLER**--Used for voice and/or data transmissions over the GAPFILLER system.

**GBCS-L** (Ground Based Common Sensor-Light)--Used to support the ground based sensor system.<sup>5</sup>

**GBS** (Global Broadcast System)--Used for voice and/or data transmissions over the Satellite system.<sup>4</sup>

**GCCS-A** (Global Command &Control System-Army)--Used to support Army GCCS operations.<sup>5</sup>

**GLOBAL ALE** (Automatic Link Establishment)--Used in supporting ALE operations within the DoD global communications network.

**GLOBAL DISCRETE**--Unpublished (non-FLIP) HF frequencies assigned to DoD global communications network.

**GLOBAL**--HF frequencies assigned to DoD global communications network.

**GOES** (Geostationary Operational Environmental Satellites)--GOES is a series of meteorological geostationary orbiting satellites that provide weather prediction data for the Western Hemisphere and particularly for the U.S.

**GOLDEN KNIGHTS**--Used by the Army's Golden Knights demonstration team.

**GPS** (Global Positioning System)--Used for precise positioning/navigation information.<sup>4</sup>

**GRCS** (Guardrail Common Sensor)--Used in support collection and location system.<sup>5</sup>

**GRIZZLY** (M1 Bleacher MineSweeper)--Used to support mine sweeping operations using CNR.<sup>6</sup>

**GROUND CONTROL**--Used in supporting those functions which controls originate from the ground and directly support ground-based operations.<sup>4</sup>

**GROUND INTERDICTION**--Used to support ground operations, convoy, scouting, surveillance etc.<sup>6</sup>

**GROUND OPERATIONS**--Used in supporting those functions which originate from the ground and directly support ground-based operations.

**GSR** (Ground Surveillance Radar)--Used to support ground surveillance radar operations.<sup>6</sup>

**HAARP** (High Frequency Active Auroral Research Program)--A scientific endeavor to study the properties and behavior of the ionosphere to understand its use to enhance communications and surveillance systems for both civilian and military purposes.<sup>2</sup>

**HARBOR-PORT OPERATIONS**--Used for controlling movements of ships in harbors and ports.<sup>2</sup>

**HAVE QUICK**--Used in supporting DoD's Jam-resistant UHF Communications Radio.<sup>2</sup>

**HAZARDOUS MATERIAL RELEASE**--Used to support hazardous material release.

**HAZMAT** (Hazardous Materials)--Used to support operations dealing with hazardous materials.<sup>2</sup>

**HELICOPTER**--Used for voice and/or data transmissions during air to air, air to ground operations.<sup>4</sup>

**HICOM** (High Command)--Used to support CINC HF high command net.

**HYDROLOGIC**--Used for collection of information regarding the waters of the earth and its atmosphere, or for the control and management of these waters.

**ICBM** (Intercontinental Ballistic Missiles)--Used to support Intercontinental Ballistic Missiles.<sup>8</sup>

**IEWCS** (Intelligence Electronic Warfare Common Sensor)--Used in support of Intelligence and Electronic Warfare operations.<sup>5</sup>

**IFF/SIF**--Used to support Identification Friend or Foe/Selective Identification Features activities.

**ILS** (Instrument Landing System)--Used to support VOR and glideslope aircraft Instrument Landing Systems.

**IMETS** (Integrated Meteorological System)--Used to support the collection of weather reports.<sup>5</sup>

**INDUSTRIAL CONTROLS**--Used to support industrial controls.<sup>2</sup>

**INFANTRY**--Used in supporting those ground-based elements designed to close with and destroy the enemy and which serve as a key element of combat power in close combat.<sup>3</sup>

**INSTALLATION PA SYSTEM (Giant Voice)**--Used by installation public address systems.<sup>2</sup>

**INSTRUCTOR/STUDENT TRAINING**--Used in supporting those activities during training which originate from the class room instructions. Mainly used for training purposes.<sup>4</sup>

**INTELLIGENCE**--Used in support of the gathering of intelligence information.

**INTERPLANE**--Used between aircraft in flight.

**INVENTORY/INVENTORY CONTROLS** (e.g., Optical Scanners)--Used in support of gathering inventory data at exchange, supply, and other logistical type facilities.

**IONOSPHERIC SOUNDER**--Used in support of ionospheric sounder operations.

**I-REMBASS** (Improved-Remotely Monitored Battlefield Sensor System)--Used to support ground surveillance operations.<sup>5</sup>

**ISYSCON** (Integrated System Control)--Used to manage multiple tactical communications systems.<sup>5</sup>

**JSS** (Joint Surveillance System)--Used in supporting the Joint Surveillance System Radars.<sup>2</sup>

**JSTARS** (Joint Surveillance and Target Systems)--Used in support of JSTARS operations.<sup>5</sup>

**JTIDS** (Joint Tactical Information Distribution System)--Used in support of the operation of JTIDS.<sup>5</sup>

**LANDWARRIER**--Used to support combat net radio operations for Corps and below.<sup>6</sup>

**LAW ENFORCEMENT**--Used to direct, control, or coordinate the activities of personnel engaged in law enforcement duties (e.g. building and installation security, criminal investigations, police activities, intelligence and counter-intelligence operations, intruder detection, etc).

**LEASAT** (Leased Satellite)--Used for voice and/or data transmissions over the LEASAT system.

**LIGHT INFANTRY**--Used in supporting those elements which operate throughout the battlefield, primarily at night or during periods of limited visibility; capable of rapid deployment over great distances and often use helicopter support or tactical airlift.<sup>3</sup>

**LINEBACKER**--Used to operate in forward combat areas, the Linebacker is capable of shooting down rotary- and fixed-wing aircraft, as well as cruise missiles.

**LINK 11**--Used in support of the operation of Link 11 Naval Tactical Data Systems (ship to ship and ship to air) operations. Also known as TADIL A used by the USAF for air to ground operations.

**LINK 16**--Used in support of the operation of Link 16 Command and Control Tactical Data Systems. Also known as TADIL B.

**LINK 4**--High Frequencies (HF) Used in support of the operation of Link 11 Naval Tactical Data Systems (ship to ship and ship to air) operations.

**LLDR** (Lightweight Laser Designator Rangefinder)--Used in support of range finding operations.<sup>5</sup>

**LMRDFS** (Light Man-portable Radio Direction Finding System)--Used to support direction finding system.<sup>5</sup>

**LOCAL CONTROL**--Used by air traffic controllers in the vicinity of an airdrome.

**LOCKS AND DAMS**--Used in direct support of the operation of locks and dams.

**LOGISTICS**--Used in supporting those functions that originate from the ground and directly support ground-based operations for logistics commands.<sup>4</sup>

**LONG RANGE RADAR**--Used for radar transmission to determine range to the targets.

**Longbow** (Apache Helicopter)--Used by the weapons radar on Apache helicopters.<sup>6</sup>

**LOOTING PREVENTION**--Used in direct support of looting prevention.

**M93A1 FOX**--Used to support Bridge operations.<sup>6</sup>

**MAINTENANCE**--Used to support maintenance activities (e.g. resurfacing of roads, maintenance of power lines, repair of dams or bridges, etc).

**MARS** (Military Affiliated Radio System)--Used for voice and/or data transmissions over the Military Affiliated Radio System.

**MECHANIZED INFANTRY**--Used in supporting those elements which provide offensive firepower and can blunt enemy attacks and have the same mobility but less firepower than Armor.<sup>3</sup>

**MEDICAL SYSTEMS**--Used for medical system, primary for command, control, and communications systems.<sup>4</sup>

**MEDICAL**--Used to direct, control, or coordinate the activities of medical personnel and emergency response vehicles.

**METEOROLOGICAL**--Used in supporting the collection by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy or supporting the passing of data concerning the meteorological characteristics of a particular area.<sup>2</sup>

**MFCS** (Mortar Fire control System)--Used to support command and control of Mortar Fire Control operations.<sup>5</sup>

**MICROWAVE DATA LINK**--Used in supporting the microwave data links.<sup>4</sup>

**MICROWAVE**--Used to support Microwave data links.<sup>4</sup>

**MILITARY POLICE**--Used to support security operations, military laws, orders and regulations, traffic control, crime prevention, investigations, logistics, coordination, and planning of police functions.<sup>4</sup>

**MILSTAR** (Military Strategic and Tactical Relay System)--Used for voice and/or data transmissions over the MILSTAR system.

**MISSILE**--Used in supporting electronic fire distribution system designed for CONUS use in coordinating all elements of air defense from target detection to target destruction.<sup>4</sup>

**MITT/DTES** (Mobile Integrated Tactical Terminal/Distributed Common Ground System Test and Evaluation Strategy)--Used to support mobile tactical terminal.<sup>5</sup>

**MLRS** (Multiple Launch Rocket System)--Used to support the flight parameters of its main carrying missiles and submissiles.<sup>2</sup>

**MLS** (Microwave Landing System)--Used to support Microwave Landing Systems.

**MOMS** (Man on the Move System)--Used in support of Man on the Move System operations.

**MOTOR POOL**--Used to support the motor pool.<sup>4</sup>

**MSE** (Mobile Subscriber Equipment)--Used to provide secure, automatic digitized voice, data, and facsimile communications to the users, whether static or mobile operations.<sup>5</sup>

**MTS** (Movement Tracking System)--Used to support the movement of personnel and equipment.<sup>5</sup>

**MUNITIONS**--Used in support of the storage or movement of munitions.

**MUTUAL AID**--Used for fire, medical, police, and other emergency services between federal, state and local agencies.

**MYSTIC STAR**--Used to support the president of the US and senior federal executives.

**NAOC** (National Airborne Operations Center)--Used in direct support of NAOC operations.

**NASA**--Used in support of NASA operations.

**NATURAL RESOURCES**--Used for the management, protection, and conservation of natural resources (e.g. national forests, public lands, wildlife, etc).

**NAVAIDS CONTROLS**--Used to activate and deactivate visual or electronic navigational aids (e.g. runway lights, radio beacons, unmanned lighthouses, etc).

**NAVAIDS**--Used to furnish navigational assistance to aircraft or ships (e.g. instrument landing system (ILS), nondirectional beacon (NDB), long-range navigation (LORAN), etc).

**NAVAL GUNFIRE SUPPORT**--Used in direct support of Naval Gunfire Support Operations.

**NAVY CAS**--Used in supporting CAS performed by Navy or Marine aircraft.<sup>1</sup>

**NCIS** (Naval Criminal Investigative Service)--Used by Naval Criminal Investigative Service organizations.

**NISTARS** (Navy Integrated Storage Tracking & Retrieval System)--Used for NISTARS activities.<sup>6</sup>

**NORAD** (North American Air defense Command)--Used by the North American Air defense Command.

**NTDR** (Near Term Digital Radio)--Used to support the Army's data communication backbone for platoon to brigade.<sup>5</sup>

**OCCS SUPPORT**--Used for communications support of Observer Controller Communication System (OCCS) programs and projects.

**OSI** (Office of Special Investigation)--Used by Office of Special Investigation organizations.

**OTHER OPERATIONS**--Used in supporting those functions not covered in one of the categories listed above.

**OTHR/ROTHR** (Over-the-Horizon Radars)--Used in supporting the OTHR. Some systems are relocatable.<sup>2</sup>

**PAGING**--A one-way communications system used for selective calling of personnel. (Note: Although paging systems may be used in direct support of functions shown on this list, such as EXECUTIVE or MEDICAL, all paging assignments shall show PAGING as the function name.)

**PAR** (Precision Approach Radar)--Used for Precision Approach Radar operations.<sup>6</sup>

**PAVE PAWS** (Precision Acquisition Vehicle Entry Phased Array Warning System)--Used in supporting the Precision Acquisition Vehicle Entry Phased Array Warning System

**PILOT-TO-DISPATCHER**--Used between the base operations dispatcher and air crews.

**PILOT-TO-METRO**--Used between the base weather facility and air crews.

**PILOT-TO-PILOT**--Communication between air crews in flight.

**POL** (Petroleum, Oil, and Lubricants)--Used to support POL activities during exercises and operations.<sup>4</sup>

**PRIME BEEF**--Used in support of the Prime Beef construction team.<sup>2</sup>



**PROJECT COTHEN**--Federal Anti-Drug Operations.

**PUBLIC WORKS**--Used to support public works.<sup>2</sup>

**RADAR** (Radio Detection and Ranging)--Used to support the various types of radar functions.<sup>4</sup>

**RADIO RELAY**--Used in supporting signal communication system using very high frequencies and line of sight radio transmitters and receivers in lieu of trunk wire circuits. This system, when used in conjunction with carrier equipment, will provide channels for both voice and Teletype operations.<sup>4</sup>

**RADIOLOCATION**--Used in supporting the determination of relative direction, position, or motion of an object, or its detection, by means of the constant velocity of rectilinear propagation characteristics of radio waves.

**RAMP CONTROL**--Used to control the movement of aircraft and vehicle traffic on the flight line.

**RANGE CONTROL**--Used in supporting the Range Control functions on a DoD Range<sup>2</sup> (e.g., Range scheduling).

**RANGE OPERATIONS**--Used in supporting general operations on a DoD Test Range or Military Training.<sup>2</sup>

**RANGER UNITS**--Used in supporting those units that plan and conduct special military operations and have the ability to support conventional military operations.<sup>3</sup>

**RDMS** (Range Data Management Subsystem)--Used to support the RDMS currently being used at the National Training Center (NTC).

**RDTE SUPPORT**--Used for communications support of research, development, test, and evaluation (RDT&E) programs and projects. (These frequency assignments do not have an experimental station class.)

**RED HORSE**--Used in support of air force tactical construction operations.

**REFUELING**--Used in supporting voice communications in support of air-air refueling operations.<sup>1</sup>

**REMOTE BARRIER CONTROL SYSTEMS**--Used to control aircraft barrier systems.

**REMOTE CONTROL CRANE**--Used to control remotely controlled cranes such as in a shipyard, harbor or other major industrial facilities.

**RESOURCES CONSERVATION**--Used to support resource conservation research operations.

**RESUPPLY**--Used in support of re-supply operations.

**RF TAGS** (Radio Frequency Tags and Interrogators)--Used to communicate information to transponders located on assets in order to track principle assets in facilities or in transit.<sup>5</sup>

**RUNWAY ICE DETECTION SYSTEMS**--Used to monitor runway ice detection systems.

**RUNWAY LIGHTING CONTROL**--Used to control remotely controlled runway lighting.

**SAFETY**--Used in support of Public works safety net.

**SATELLITE COMMUNICATIONS**--Used for voice and/or data transmissions over a non-specific satellite system

**SAWDS** (Satellite Automated WX Dist Sys)--Network to disseminate weather information to DoD facilities.

**SCAMP** (Single Channel Anti-Jam Manportable Terminal)--Used to support voice and data links for battle command and control communications.<sup>5</sup>

**SCOPE SHIELD**--Tactical handheld radios.

**SEA OPERATIONS**--Used in supporting those functions which originate from on board ship and/or directly support the launching of, actual conduct of, and returning of forces carrying out sea-based operations; operations in a maritime and littoral environment which contribute to gaining and maintaining freedom of action.

**SEABEES**--Used in support of SEABEES construction activities.<sup>2</sup>

**SEARCH AND RESCUE**--Used in supporting Search and Rescue (SAR) operational use of aircraft, surface craft, submarines, specialized rescue teams and equipment to search for and rescue personnel in distress on land or at sea.

**SECURITY FORCE**--Used in providing installation physical security operations.<sup>2</sup>

**SEISMIC**--Used to transmit measurements of stress, strain, or movements of the earth's crust.

**SENTINEL** (AN/MPQ-64 Surveillance Radar)--Used for air surveillance and target acquisition/tracking sensor for Short Range Air Defense (SHORAD) weapons systems.<sup>5</sup>

**SGLS** (Space Ground Link Subsystem) (Telemetry)--Used in conjunction with the Automated Remote Tracking System (ARTS).

**SHIP/AIR OPERATIONS**--Used in supporting airborne units assigned to US Naval ships.

**SHIP/SHIP**--Used in supporting ship-to-ship communications.

**SHIP/ShORE OPERATIONS**--Used in supporting ship-to-shore communications.

**SHIPYARD**--Used in supporting shipyard operations, except remote controlled cranes.

**SHORE PATROL**--Used by shore patrol activities.

**SHUTTLE**--Used in direct support of Space Shuttle operations.<sup>2</sup>

**SIMULATOR**--Used to support simulator activities.

**SINCGARS** (Single Channel Ground and Airborne Radio System)--Used to support combat arms command and control operations.<sup>5</sup>

**SINCGARS-ASIP** (Single Channel Ground and Airborne Radio System-Advanced System Improvement Plan)--Used to support combat arms command and control operations.<sup>5</sup>

**SNOW REMOVAL**--Used to support snow removal activities.<sup>2</sup>

**SOF** (Supervisor of Flying)--Used by the SOF to assist pilots.

**SPACE OPERATIONS**--Used in supporting those functions that directly support operational space missions including satellite control and shuttle missions.<sup>2</sup>

**SPECIAL COURIER**--Used by personnel engaged in transporting valuable, sensitive, hazardous, or classified material.

**SPECIAL OPERATIONS**--Used in directly supporting Special Operations; those operations conducted by specially trained, equipped, and organized DoD forces (e.g., SOF) against strategic or tactical targets during peacetime or during hostilities.

**SPECIAL PROJECTS**--Used in support of communications electronics systems that are generally one-of-a-kind systems (e.g., Special Forces, intelligence, RF propagation systems, ground and avionics communications-electronics weapons systems, etc).

**SPECIAL SECURITY OPERATIONS**--Used in direct support of special security operations.

**SPEED MEASUREMENT SYSTEMS**--Used by law enforcement activities to measure the speed of vehicles.

**SPITFIRE** (SPITFIRE Manpack UHF SATCOM DAMA Terminal)--Used to support digital voice communications.

**SQUADRON/WING COMMON**--A common frequency used for communication within a squadron or wing; (AF) a unit composed normally of one primary mission group and the necessary supporting organizations; (Navy) the basic organizational and administrative unit for naval-, land-, and tender-based aviation; (Marines) a balanced task organization of aircraft groups/squadrons together with appropriate command, air control, administrative, service, and maintenance units.

**STRIKER II** (Advanced Fire Support/Scout/Surveillance System)--Used to support long range, reconnaissance, surveillance and fire support systems.<sup>6</sup>

**SUPPLY AND LOGISTICS**--Used to support general Supply and Logistics operations.

**SURVEILLANCE/RECONNAISSANCE**--Used in supporting those strategic and tactical sensors and systems which provide warning of air breathing, ballistic missile, space-based, or tactical ground-based attack or to relay voice and/or data on the activities and resources of a potential or real enemy or the characteristics of a particular area obtained through visual observations or other detection methods.<sup>1</sup>

**SURVEILLANCE SYSTEMS**--Used to support base security surveillance operations.

**SURVEY**--Used on an intermittent basis by field survey teams involved in measurement activities (e.g. geodetic surveys, radiation hazard monitoring, pre-construction site surveys, etc).

**SUSTAINING BASE OPERATIONS**--Used in supporting those functions normally performed in conjunction with the continued operation of a Army Post, Navy/Marine Corps Base, or Air Force Base.<sup>2</sup>

**TACAN** (Tactical Air Navigation)--Used by TACAN systems.

**TACCS** (Tactical Army Combat Service Support Computer System)--Used in support of the TACCS.

**TACJAM** (Tactical Communications Jamming System)--Used to support jamming operations.<sup>6</sup>

**TACTS** (Tactical Trunk Signaling)--Used to support trunking systems.<sup>6</sup>

**TARGET SCORING**--Used to support target scoring of laser equipment.<sup>4</sup>

**TARGET**--Used to support target scoring and precision tracking radar etc.<sup>4</sup>

**TAXI**--Used by base/installation taxi systems.<sup>2</sup>

**TCAS** (Traffic Collision Avoidance System)--Used by aircraft equipped with the TCAS equipment.<sup>2</sup>

**TCRS** (Target Control System)--Used to support target control functions and exercises at NTC.

**TEAMMATE**--Used to support collection and direction finding systems.<sup>5</sup>

**TELECOMMAND**--Used to remotely control the operations of an unmanned vehicle (land, sea, air, or space), or to activate and deactivate instruments or devices carried by the vehicle (e.g. missile destruct, guidance of remotely piloted vehicles (RPVs), control of overhead cranes, etc).

**TELEMETRY**--Used in supporting the transmission of telemetry data on a DoD Range.<sup>2</sup>

**TEST AND CALIBRATION**--Used in supporting the test and calibration functions.

**TEST AND MEASUREMENT**--Used in supporting the test and measurement functions on a DoD Range.<sup>2</sup>

**TEST RANGE TIMING**--Used in supporting the transmission of timing signals on a DoD Range.<sup>2</sup>

**TEST RANGE**--Used in support of operations that are unique to a government test range (e.g. range control, range safety, range timing, etc).

**TETHERED AREOSTAT RADAR**--Used in supporting the Tethered Aerostat Radars and interface system.<sup>2</sup>

**THUNDERBIRDS**--Used by the USAF THUNDERBIRDS demonstration team.

**TMGS** (Transportable mobile ground subsystems)--Used in support of telecommand operations.

**TOSS** (TV Ordnance Scoring System)--Used in support of telecommand operations in scoring target accuracy on military ranges.

**TRACKWOLF**--Used to support ground based HF skywave communications intercept and direction finding systems.<sup>5</sup>

**TRAILBLAZER** (Ground Based Communications Intelligence System)--Used by the Army to gather Intelligence.

**TRAINING**--Used to train personnel in the accomplishment of a specific task or set of tasks.

**TRANSPORTATION**--Used to coordinate the routine movement of material and/or personnel from one point to another (e.g. messenger service, supply expeditor, taxi dispatch, etc).

**TRAVELERS INFORMATION SYSTEM**--Used to provide travelers advisories.<sup>2</sup>

**TROJAN SPIRIT**--Used to support the Transportable Trojan Spirit II satellite communications terminal.<sup>5</sup>

**TRUNKING**--Radiotelephony using standard land mobile trunking principles.

**UAV** (Unmanned Aerial Vehicle)--Used in supporting the testing and/or operations of pilotless aircraft <sup>2</sup>

**UNLICENSED DEVICE**--Used by the government for use by low power devices normally operated without a license under the provisions of Part 15 of the FCC Regulations.

**UTILITIES**--Used for the management, control, and/or distribution of utilities (e.g. electric power, water, telephone service, oil and gas, etc).

**VOR** (Very High Frequency Omnidirectional Range)--Used for Very High Frequency (VHF) Omnidirectional Range (VOR) operations.<sup>2</sup>

**VORTAC** (VHF Omni-range TACAN)--Used for VORTAC operations.<sup>2</sup>

**WARNING SYSTEM**--A signal or siren that warns of imminent danger (e.g., bomb alert, chemical, tornadoes, etc.)

**WEAPON SYSTEMS**--Used by major weapon systems.<sup>2</sup>

**WEAPONS STORAGE PROTECTION**--Used to support weapons storage facilities.<sup>6</sup>

**WEATHER RADAR**--Radar frequencies used by aircraft or ground based sites for weather purposes.

**WEATHER**--Used for the transmission of meteorological information (e.g. wind speed, temperature, barometric pressure, forecasts, etc).

**WHCA** (White House Communications Agency)--Used in supporting WHCA operations.

**WILDLIFE PRESERVATION**--Used for game wardens, endangered species/wildlife preservation and tracking the movements of wild animals.

**WIND PROFILER**--Used for sensing wind shear in the vicinity of airports.

**WIN-T** (Warfighter Information Network-Tactical)--Used to support the Army's tactical Intranet consisting of switching/routing/transport that provides voice, data and video services.<sup>6</sup>

**WIRELESS LOCAL AREA NETWORK**--Used to support local area network frequency bands.<sup>6</sup>

**WIRELESS MIKE**--A transmitting device used to provide the audio input to a speaker system. (Note: Although wireless mikes may be used in direct support of functions shown elsewhere on this list, such as RDTE SUPPORT or TRAINING, all assignments for these devices shall show WIRELESS MIKE as the function name.)

**WOLVERINE** (Assault Bridge)--Used to support command and control of bridge operations.<sup>6</sup>

Notes: --

(none) Taken directly from Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*--

1. Adapted from existing definition(s) contained in Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*--

2. Definition derived from various DoD sources--

3. Definition extracted or derived from HQ Department of the Army, FM 100-5, *Operations*--
4. Definition extracted or derived from HQ Department of the Army, AR 310-25, *Dictionary of United States Army Terms*.
5. Definition extracted or derived from Command, Control, Communications, Computer, Intelligence & Electronic Warfare and Sensors and Information Management (C4IEWS & IM).
6. Definition extracted or derived from Secretary of the Army Research, Development, & Acquisition via the Internet

## APPENDIX B - ACRONYMS

The following acronyms are used throughout this document. Acronyms extracted from the NTIA Manual and placed in Annexes A-G of Appendix A for reference use have not been included here.

|                   |  |
|-------------------|--|
| AAG               | Aeronautical Advisory Group                            |
| AMSL              | Above Mean Sea Level                                   |
| ACTF              | Agenda Action File                                     |
| AFC               | Area Frequency Coordinator                             |
| ASCII             | American Standard Communications Information Interface |
| AUTODIN           | Automatic Digital Network                              |
| BR                | Radiocommunications Bureau (formerly IFRB)             |
| CCF               | Central Computer Facility                              |
| C-E               | Communications-electronics                             |
| CINC              | Commander-in-Chief                                     |
| CINCCENT          | Commander-in-Chief, Central                            |
| CINCEUR           | Commander-in-Chief, Europe                             |
| CINCPAC           | Commander-in-Chief, Pacific                            |
| CINCSO            | Commander-in-Chief, South                              |
| CONUS             | Continental United States                              |
| COMSEC            | Communications Security                                |
| DCF               | Distributed Computer Facility                          |
| DCS               | Defense Communications Systems                         |
| DISA              | Defense Information Systems Agency                     |
| DMS               | Defense Message System                                 |
| DoD               | Department of Defense                                  |
| EC                | Earth Coverage   |
| ECCM              | Electronic Counter Countermeasures                     |
| ECM               | Electronic Counter Measures                            |
| EMC               | Electromagnetic Compatibility                          |
| ERP               | Effective Radiated Power                               |
| EUCOM             | European Command                                       |
| EW                | Electronic Warfare                                     |
| FAA               | Federal Aviation Administration                        |
| FAS               | Frequency Assignment Subcommittee                      |
| FCC               | Federal Communications Commission                      |
| FMO               | Frequency Management Office                            |
| FMSC              | Frequency Management Sub-Committee (formerly ARFA)     |
| FRRS              | Frequency Record Resource System                       |
| GAFC              | Gulf Area Frequency Coordinator                        |
| GE                | Germany  |
| GMF               | Government Master File                                 |
| HF                | High Frequency   |
| IAW               | In Accordance With                                     |
| IRAC              | Interdepartment Radio Advisory Committee               |
| ITU               | International Telecommunication Union                  |
| JCS               | Joint Chiefs of Staff                                  |
| JFP               | Joint Frequency Panel                                  |
| JFMOLANT          | Joint Frequency Management Office, Atlantic            |
| JNTSVC            | Joint Service  |
| JSC               | Joint Spectrum Center                                  |
| JSMS <sub>w</sub> | Joint Spectrum Management Systems for windows          |
| Keymat            | Keying Materiel  |

|           |   |
|-----------|---|
| LANTCOM   | Atlantic Command  |
| MAG       | Military Advisory Group   |
| MAJCOM    | Major Commands  |
| MCEB      | Military Communications – Electronics Board                         |
| MILDEP    | Military Department   |
| MRFL      | Master Radio Frequency List   |
| NAVAIDS   | Navigation Aid System   |
| NATO      | North Atlantic Treaty Organization                                  |
| NSA       | National Security Agency  |
| NTIA      | National Telecommunications and Information Administration          |
| OUS&P     | Outside United States & Possessions                                 |
| PC        | Personal Computer   |
| PD        | Pulse Duration  |
| PLAD      | Plain Language Address  |
| PRR       | Pulse Repetition Rate   |
| PPS       | Pulses Per Second   |
| PO        | Periodic Output   |
| RDTE      | Research, Development, Test & Evaluation                            |
| SCIF      | Sensitive Compartmented Information Facility                        |
| SFAF      | Standard Frequency Action Format                                    |
| SIPRNET   | SECRET Internet Protocol Router Network                             |
| SOPs      | Standard Operating Procedures                                       |
| SCG       | Security Classification Guide                                       |
| US        | United States   |
| US&P      | United States and Possessions                                       |
| USAF      | United States Air Force   |
| USCINCEUR | US Commander-in-Chief, Europe                                       |
| USJFCOM   | United States Joint Forces Command                                  |
| UIC       | Unit Identification Code  |
| USMC      | United States Marine Corps  |
| YYYYMMDD  | the four digit year, two digit month and two digit day of the month |

## APPENDIX C - DISTRIBUTION

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## **APPENDIX D – SUMMARY OF MAJOR CHANGES**

1. This change revises MCEB PUB 7, Frequency Resource record System (FRRS) DoD Standard Frequency Action Format (SFAF) dated 1 October 1998 with change 1 dated 1 December 1999.

a. The following significant changes were made in the main part of the document.

Figure 7.1 was added on page 14 to provide an example of a record declassification transaction. In Table A1, data items 511, 512, and 513 were added, the length of data item 715 was changed from 6 to 14 characters, the length of data item 926 was changed from 6 to 12 characters, and the length of data item 963 was changed from 13 characters to 16 characters.

Minor changes were made in other parts of the document to support the changes listed below.

b. The following list of SFAF items in Appendix A have been significantly changed in this document.

### **SFAF ITEM**

### **CHANGE**

005 Data item 005 was change to add special handling code "A".

511 Data item 511 was added.

512 Data item 512 was added.

513 Data item 513 was added.

715 Data item character length was changed from 6 to 14 characters.

926 Data item character length was changed from 6 to 12 characters.

963 Data item 963 the character length was changed from 13 to 16.

Annex C add the country code for Burundi.

Annex D add Manufacturer Codes.

Annex F add and delete record Notes.

Annex I to Appendix A has been added to provide a List of Standard DoD Agency Specific Function Identifiers for use in data items 511 – 513.

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